

# Onsala Space Observatory, Chalmers

## Publication list 2020

Compiled by Magnus Thomasson

Publications in refereed journals 2020 enabled by the Onsala infrastructure are recorded below.

[Astronomy: Onsala 20 m telescope \(single-dish\)](#)

[Astronomy: APEX](#)

[Astronomy: ALMA](#)

[Astronomy: VLBI](#)

[Astronomy: LOFAR](#)

[Geoscience](#)

[Technology: receiver development etc.](#)

*In addition* to the publications listed below, in 2020 there was *one* publication using astronomical data from the satellite *Odin* (now operating mainly in aeronomy mode), and *five* publications using data from the Swedish-ESO Submillimetre Telescope *SEST* (closed in 2003).

### Astronomy: Onsala 20 m telescope (single-dish)

*The ISM scaling relations in DustPedia late-type galaxies: A benchmark study for the Local Universe.*

Casasola, V., Bianchi, S., De Vis, P., Magrini, L., Corbelli, E., Clark, C.J.R., Fritz, J., Nersesian, A., Viaene, S., Baes, M., Cassarà, L.P., Davies, J., De Looze, I., Dobbels, W., Galametz, M., Galliano, F., Jones, A.P., Madden, S.C., Mosenkov, A.V., Trčka, A., and Xilouris, E.

A&A 633, A100 (2020)

*Central molecular zones in galaxies:  $^{12}\text{CO}$ -to- $^{13}\text{CO}$  ratios, carbon budget, and X factors.*

Israel, F.P.

A&A 635, A131 (2020)

*Detection of two bright radio bursts from magnetar SGR 1935 + 2154.*

Kirsten, F., Snelders, M.P., Jenkins, M., Nimmo, K., van den Eijnden, J., Hessels, J.W.T., Gawroński, M.P., and Yang, J.

Nature Astronomy (2020)

*The Physical Parameters of Clumps Associated with Class I Methanol Masers.*

Ladeyschikov, D.A., Urquhart, J.S., Sobolev, A.M., Breen, S.L., and Bayandina, O.S.

ApJ 160, 213 (2020)

*NGC 7538 IRS1—an O Star Driving an Ionized Jet and Giant N–S Outflow.*

Sandell, G., Wright, M., Güsten, R., Wiesemeyer, H., Reyes, N., Mookerjea, B., Corder, S.

ApJ 904, 139 (2020)

*A Survey of High Mass Star Forming Regions in the Lines of Deuterated Molecules.*

Trofimova, E.A., Zinchenko, I.I., Zemlyanukha, P.M., Thomasson, M.

Astronomy Reports 64, 244 (2020)

## **Astronomy: APEX**

Publications from all APEX partner's observing time.

*Unusual Galactic H II Regions at the Intersection of the Central Molecular Zone and the Far Dust Lane.*

Anderson, L. D., Sormani, M. C., Ginsburg, Adam, Glover, Simon C. O., Heywood, I., Rammala, I., Schuller, F., Csengeri, T., Urquhart, J. S., Bronfman, Leonardo.  
ApJ 901, 51 (2020)

*Deuterium fractionation of nitrogen hydrides: detections of NHD and ND<sub>2</sub>.*

Bacmann, A., Faure, A., Hily-Blant, P., Kobayashi, K., Ozeki, H., Yamamoto, S., Pagani, L., Lique, F.  
MNRAS 499, 1795 (2020)

*CMZoom: Survey Overview and First Data Release.*

Battersby, C., Keto, E., Walker, D., Barnes, A., Callanan, D., Ginsburg, A., Hatchfield, H.P., Henshaw, J., Kauffmann, J., Kruijssen, J.M.D., Longmore, S.N., Lu, X., Mills, E.A.C., Pillai, T., Zhang, Q., Bally, J., Butterfield, N., Contreras, Y.A., Ho, L.C., Ott, J., Patel, N., and Tolls, V.  
ApJS 249, 35 (2020)

*ALMA Observations Reveal No Preferred Outflow-filament and Outflow-magnetic Field Orientations in Protoclusters.*

Baug, T., Wang, Ke, Liu, Tie, Tang, Mengyao, Zhang, Qizhou, Li, Di, Eswaraiah, Chakali, Liu, Sheng-Yuan, Tej, Anandmayee, Goldsmith, Paul F., Bronfman, Leonardo, Qin, Sheng-Li, Tóth, Viktor L., Li, Pak-Shing, Kim, Kee-Tae.  
ApJ 890, 44 (2020)

*The multi-phase ISM in the nearby composite AGN-SB galaxy NGC 4945: large-scale (parsecs) mechanical heating.*

Bellocchi, E., Martín-Pintado, J., Güsten, R., Requena-Torres, M. A., Harris, A., van der Werf, P. P., Israel, F. P., Weiss, A., Kramer, C., García-Burillo, S., Stutzki, J.  
A&A 642, A166 (2020)

*Submillimetre water masers at 437, 439, 471, and 474 GHz towards evolved stars. APEX observations and radiative transfer modelling.*

Bergman, P., Humphreys, E. M. L.  
A&A 638, A19 (2020)

*Dynamical cloud formation traced by atomic and molecular gas.*

Beuther, H., Wang, Y., Soler, J., Linz, H., Henshaw, J., Vazquez-Semadeni, E., Gomez, G., Ragan, S., Henning, Th., Glover, S. C. O., Lee, M. -Y., Güsten, R.  
A&A 638, A44 (2020)

*ATLASGAL - relationship between dense star-forming clumps and interstellar masers.*

Billington, S. J., Urquhart, J. S., König, C., Beuther, H., Breen, S. L., Menten, K. M., Campbell-White, J., Ellingsen, S. P., Thompson, M. A., Moore, T. J. T., Eden, D. J., Kim, W.-J., Leurini, S.  
MNRAS 499, 2744 (2020)

*Formation of the Musca filament: evidence for asymmetries in the accretion flow due to a cloud-cloud collision.*

Bonne, L., Bontemps, S., Schneider, N., Clarke, S. D., Arzoumanian, D., Fukui, Y., Tachihara, K., Csengeri, T., Guesten, R., Ohama, A., Okamoto, R., Simon, R., Yahia, H., Yamamoto, H.  
A&A 644, A27 (2020)

*Dense gas formation in the Musca filament due to the dissipation of a supersonic converging flow.*

Bonne, L., Schneider, N., Bontemps, S., Clarke, S. D., Gusdorf, A., Lehmann, A., Steinke, M., Csengeri, T., Kabanovic, S., Simon, R., Buchbender, C., Güsten, R.  
A&A 641, A17 (2020)

*An imaging line survey of OMC-1 to OMC-3. Averaged spectra of template regions.*

Brinkmann, N., Wyrowski, F., Kauffmann, J., Colombo, D., Menten, K. M., Tang, X. D., Güsten, R.  
A&A 636, A39 (2020)

*The EDGE-CALIFA survey: exploring the role of molecular gas on galaxy star formation quenching.*

Colombo, D., Sanchez, S. F., Bolatto, A. D., Kalinova, V., Weiß, A., Wong, T., Rosolowsky, E., Vogel, S. N., Barrera-Ballesteros, J., Dannerbauer, H., Cao, Y., Levy, R. C., Utomo, D., Blitz, L.  
A&A 644, A97 (2020)

*An ALMA view of SO and SO<sub>2</sub> around oxygen-rich AGB stars.*

Danilovich, T., Richards, A. M. S., Decin, L., Van de Sande, M., Gottlieb, C. A.  
MNRAS 494, 1323 (2020)

*GASP XXV: neutral hydrogen gas in the striking jellyfish galaxy JO204.*

Deb, T., Verheijen, M.A.W., Gullieuszik, M., Poggianti, B.M., van Gorkom, J.H., Ramatsoku, M., Serra, P., Moretti, A., Vulcani, B., Bettoni, D., Jaffé, L.Y., Tonnesen, S., and Fritz, J.  
MNRAS 494, 5029 (2020)

*The surprisingly carbon-rich environment of the S-type star W Aql.*

De Beck, E., Olofsson, H.  
A&A 642, A20 (2020)

*Interstellar anatomy of the TeV gamma-ray peak in the IC443 supernova remnant.*

Dell'Ova, P., Gusdorf, A., Gerin, M., Riquelme, D., Güsten, R., Noriega-Crespo, A., Tram, L.N., Houde, M., Guillard, P., Lehmann, A., Lesaffre, P., Louvet, F., Marcowith, A., Padovani, M.  
A&A 644, A64 (2020)

*Uncovering distinct environments in an extended physical system around the W33 complex.*  
Dewangan, L. K., Baug, T., Ojha, D. K.  
MNRAS 496, 1278 (2020)

*Investigating the Physical Conditions in Extended System Hosting Mid-infrared Bubble N14.*  
Dewangan, L. K., Baug, T., Pirogov, L. E., Ojha, D. K.  
ApJ 898, 41 (2020)

*Betelgeuse Fainter in the Submillimeter Too: An Analysis of JCMT and APEX Monitoring during the Recent Optical Minimum.*  
Dharmawardena, T.E., Mairs, S., Scicluna, P., Bell, G., McDonald, I., Menten, K., Weiss, A., and Zijlstra, A.  
ApJL 897, L9 (2020)

*The Chemical Structure of Young High-mass Star-forming Clumps. II. Parsec-scale CO Depletion and Deuterium Fraction of HCO<sup>+</sup>.*  
Feng, S., Li, D., Caselli, P., Du, F., Lin, Y., Sipilä, O., Beuther, H., Sanhueza, Patricio, Tatematsu, K., Liu, S. Y., Zhang, Q., Wang, Y., Hogge, T., Jimenez-Serra, I., Lu, X., Liu, T., Wang, K., Zhang, Z. Y., Zahorecz, S., Li, G., Liu, H. B., Yuan, J.  
ApJ 901, 145 (2020)

*Multifrequency study of HH 137 and HH 138: discovering new knots and molecular outflows with Gemini and APEX.*  
Ferrero, L.V., Cappa, C.E., Saldaño, H.P., Gómez, M., Rubio, M., and Günthardt, G.  
MNRAS 496, 4239 (2020)

*APEX CO observations towards the photodissociation region of RCW 120.*  
Figueira, M., Zavagno, A., Bronfman, L., Russeil, D., Finger, R., Schuller, F.  
A&A 639, A93 (2020)

*Simulating the circumstellar H<sub>2</sub>CO and CH<sub>3</sub>OH chemistry of young stellar objects using a spherical physical-chemical model.*  
Fuchs, G. W., Witsch, D., Herberth, D., Kempkes, M., Stanclik, B., Chantzoz, J., Linnartz, H., Menten, K. M., Giesen, T. F.  
A&A 639, A143 (2020)

*Deep search for hydrogen peroxide toward pre- and protostellar objects. Testing the pathway of grain surface water formation.*  
Fuchs, G. W., Witsch, D., Herberth, D., Kempkes, M., Stanclik, B., Chantzoz, J., Linnartz, H., Menten, K., Giesen, T. F.  
A&A 636, A114 (2020)

*DeGaS-MC: Dense Gas Survey in the Magellanic Clouds. I. An APEX survey of HCO<sup>+</sup> and HCN(2-1) toward the LMC and SMC.*  
Galamez, M., Schrubba, A., De Breuck, C., Immer, K., Chevance, M., Galliano, F., Gusdorf, A., Lebouteiller, V., Lee, M. Y., Madden, S. C., Polles, F. L., van Kempen, T. A.  
A&A 643, A63 (2020)

*The Clustering of Submillimeter Galaxies Detected with ALMA.*

García-Vergara, C., Hodge, J., Hennawi, J.F., Weiss, A., Wardlow, J., Myers, A.D., Hickox, R.  
ApJ 904, 2 (2020)

*The MUSTANG Galactic Plane Survey (MGPS90) Pilot.*

Ginsburg, A., Anderson, L.D., Dicker, S., Romero, C., Svoboda, B., Devlin, M., Galván-Madrid, R., Indebetouw, R., Liu, H.B., Mason, B., Mroczkowski, T., Armentrout, W.P., Bally, J., Brogan, C., Butterfield, N., Hunter, T.R., Reese, E.D., Rosolowsky, E., Sarazin, C., Shirley, Y., Sievers, J., and Stanchfield, S.  
ApJS 248, 24 (2020)

*APEX-SEPIA660 Early Science: gas at densities above  $10^7 \text{ cm}^{-3}$  towards OMC-1.*

Hacar, A., Hogerheijde, M. R., Harsono, D., Portegies Zwart, S., De Breuck, C., Torstensson, K., Boland, W., Baryshev, A. M., Hesper, R., Barkhof, J., Adema, J., Bekema, M. E., Koops, A., Khudchenko, A., Stark, R.  
A&A 644, A133 (2020)

*Megaparsec-scale structure around the protocluster core SPT2349-56 at  $z = 4.3$ .*

Hill, R., Chapman, S., Scott, D., Apostolovski, Y., Aravena, M., Béthermin, M., Bradford, C.M., Canning, R.E.A., De Breuck, C., Dong, C., Gonzalez, A., Greve, T.R., Hayward, C.C., Hezaveh, Y., Litke, K., Malkan, M., Marrone, D.P., Phadke, K., Reuter, C., Rotermund, K., Spilker, J., Vieira, J.D., and Weiß, A.  
MNRAS 495, 3124 (2020)

*Sulphur and carbon isotopes towards Galactic centre clouds.*

Humire, P. K., Thiel, V., Henkel, C., Belloche, A., Loison, J. -C., Pillai, T., Riquelme, D., Wakelam, V., Langer, N., Hernández-Gómez, A., Mauersberger, R., Menten, K. M.  
A&A 642, A222 (2020)

*Structural and Dynamical Analysis of 0.1 pc Cores and Filaments in the 30 Doradus-10 Giant Molecular Cloud.*

Indebetouw, R., Wong, T., Chen, C.-H.R., Kepley, A., Leboutteiller, V., Madden, S., and Oliveira, J.M.  
ApJ 888, 56 (2020)

*Multiwavelength investigation of extended green object G19.88-0.53: revealing a protocluster.*

Issac, N., Tej, A., Liu, T., Varricatt, W., Vig, S., Ishwara Chandra, C.H., Schultheis, M., and Nandakumar, G.  
MNRAS 497, 5454 (2020)

*Extending the view of ArH<sup>+</sup> chemistry in diffuse clouds.*

Jacob, A.M., Menten, K.M., Wyrowski, F., Winkel, B., and Neufeld, D.A.  
A&A 643, A91 (2020)

*High molecular gas content and star formation rates in local galaxies that host quasars, outflows, and jets.*

Jarvis, M. E., Harrison, C. M., Mainieri, V., Calistro Rivera, G., Jethwa, P., Zhang, Z. -Y., Alexander, D. M., Circosta, C., Costa, T., De Breuck, C., Kakkad, D., Kharb, P., Lansbury, G.B., Thomson, A. P.  
MNRAS 498, 1560 (2020)

*A Detailed View of the Circumstellar Environment and Disk of the Forming O-star AFGL 4176.*

Johnston, K.G., Hoare, M.G., Beuther, H., Linz, H., Boley, P., Kuiper, R., Kee, N.D., and Robitaille, T.P.  
ApJ 896, 35 (2020)

*Event Horizon Telescope imaging of the archetypal blazar 3C 279 at an extreme 20 microarcsecond resolution.*

Kim, J.-Y., Krichbaum, T.P., Broderick, A.E., Wielgus, M., Blackburn, L., Gómez, J.L., Johnson, M.D., Bouman, K.L., Chael, A., Akiyama, K., Jorstad, S., Marscher, A.P., Issaoun, S., Janssen, M., Chan, C.-. kwan ., Savolainen, T., Pesce, D.W., Özel, F., Alberdi, A., Alef, W., Asada, K., Azulay, R., Baczko, A.-K., Ball, D., Baloković, M., Barrett, J., Bintley, D., Boland, W., Bower, G.C., Bremer, M., Brinkerink, C.D., Brissenden, R., Britzen, S., Broguiere, D., Bronzwaer, T., Byun, D.-Y., Carlstrom, J.E., Chatterjee, S., Chatterjee, K., Chen, M.-T., Chen, Y., Cho, I., Christian, P., Conway, J.E., Cordes, J.M., Crew, G.B., Cui, Y., Davelaar, J., De Laurentis, M., Deane, R., Dempsey, J., Desvignes, G., Dexter, J., Doeleman, S.S., Eatough, R.P., Falcke, H., Fish, V.L., Fomalont, E., Fraga-Encinas, R., Friberg, P., Fromm, C.M., Galison, P., Gammie, C.F., García, R., Gentaz, O., Georgiev, B., Goddi, C., Gold, R., Gómez-Ruiz, A.I., Gu, M., Gurwell, M., Hada, K., Hecht, M.H., Hesper, R., Ho, L.C., Ho, P., Honma, M., Huang, C.-W.L., Huang, L., Hughes, D.H., Ikeda, S., Inoue, M., James, D.J., Jannuzi, B.T., Jeter, B., Jiang, W., Jimenez-Rosales, A., Jung, T., Karami, M., Karuppusamy, R., Kawashima, T., Keating, G.K., Kettenis, M., Kim, J., Kim, J., Kino, M., Koay, J.Y., Koch, P.M., Koyama, S., Kramer, M., Kramer, C., Kuo, C.-Y., Lauer, T.R., Lee, S.-S., Li, Y.-R., Li, Z., Lindqvist, M., Lico, R., Liu, K., Liuzzo, E., Lo, W.-P., Lobanov, A.P., Loinard, L., Lonsdale, C., Lu, R.-S., MacDonald, N.R., Mao, J., Markoff, S., Marrone, D.P., Martí-Vidal, I., Matsushita, S., Matthews, L.D., Medeiros, L., Menten, K.M., Mizuno, Y., Mizuno, I., Moran, J.M., Moriyama, K., Moscibrodzka, M., Musoke, G., Müller, C., Nagai, H., Nagar, N.M., Nakamura, M., Narayan, R., Narayanan, G., Natarajan, I., Neri, R., Ni, C., Noutsos, A., Okino, H., Olivares, H., Ortiz-León, G.N., Oyama, T., Palumbo, D.C.M., Park, J., Patel, N., Pen, U.-L., Piétu, V., Plambeck, R., PopStefanija, A., Porth, O., Prather, B., Preciado-López, J.A., Psaltis, D., Pu, H.-Y., Ramakrishnan, V., Rao, R., Rawlings, M.G., Raymond, A.W., Rezzolla, L., Ripperda, B., Roelofs, F., Rogers, A., Ros, E., Rose, M., Roshanineshat, A., Rottmann, H., Roy, A.L., Ruszczyk, C., Ryan, B.R., Rygl, K.L.J., Sánchez, S., Sánchez-Arguelles, D., Sasada, M., Schloerb, F.P., Schuster, K.-F., Shao, L., Shen, Z., Small, D., Sohn, B.W., SooHoo, J., Tazaki, F., Tiede, P., Tilanus, R.P.J., Titus, M., Toma, K., Torne, P., Trent, T., Traianou, E., Trippe, S., Tsuda, S., van Bemmell, I., van Langevelde, H.J., van Rossum, D.R., Wagner, J., Wardle, J., Ward-Thompson, D., Weintraub, J., Wex, N., Wharton, R., Wong, G.N., Wu, Q., Yoon, D., Young, A., Young, K., Younsi, Z., Yuan, F., Yuan, Y.-F., Zensus, J.A., Zhao, G., Zhao, S.-S., Zhu, Z., Algaba, J.-C., Allardi, A., Amestica, R., Anczarski, J., Bach, U., Baganoff, F.K., Beaudoin, C., Benson, B.A., Berthold, R., Blanchard, J.M., Blundell, R., Bustamente, S., Cappallo, R., Castillo-Domínguez, E., Chang, C.-C., Chang, S.-H., Chang, S.-C., Chen, C.-C., Chilson, R.,

Chuter, T.C., Rosado, R.C., Coulson, I.M., Crowley, J., Derome, M., Dexter, M., Dornbusch, S., Dudevoir, K.A., Dzib, S.A., Eckart, A., Eckert, C., Erickson, N.R., Everett, W.B., Faber, A., Farah, J.R., Fath, V., Folkers, T.W., Forbes, D.C., Freund, R., Gale, D.M., Gao, F., Geertsema, G., Graham, D.A., Greer, C.H., Grosslein, R., Gueth, F., Haggard, D., Halverson, N.W., Han, C.-C., Han, K.-C., Hao, J., Hasegawa, Y., Henning, J.W., Hernández-Gómez, A., Herrero-Illana, R., Heyminck, S., Hirota, A., Hoge, J., Huang, Y.-D., Violette Impellizzeri, C.M., Jiang, H., John, D., Kamble, A., Keisler, R., Kimura, K., Kono, Y., Kubo, D., Kuroda, J., Lacasse, R., Laing, R.A., Leitch, E.M., Li, C.-T., Lin, L.C.-C., Liu, C.-T., Liu, K.-Y., Lu, L.-M., Marson, R.G., Martin-Cocher, P.L., Massingill, K.D., Matulonis, C., McColl, M.P., McWhirter, S.R., Messias, H., Meyer-Zhao, Z., Michalik, D., Montaña, A., Montgomerie, W., Mora-Klein, M., Muders, D., Nadolski, A., Navarro, S., Neilsen, J., Nguyen, C.H., Nishioka, H., Norton, T., Nowak, M.A., Nystrom, G., Ogawa, H., Oshiro, P., Oyama, T., Parsons, H., Peñalver, J., Phillips, N.M., Poirier, M., Pradel, N., Primiani, R.A., Raffin, P.A., Rahlin, A.S., Reiland, G., Risacher, C., Ruiz, I., Sáez-Madaín, A.F., Sassella, R., Schellart, P., Shaw, P., Silva, K.M., Shiokawa, H., Smith, D.R., Snow, W., Souccar, K., Sousa, D., Sridharan, T.K., Srinivasan, R., Stahm, W., Stark, A.A., Story, K., Timmer, S.T., Vertatschitsch, L., Walther, C., Wei, T.-S., Whitehorn, N., Whitney, A.R., Woody, D.P., Wouterloot, J.G.A., Wright, M., Yamaguchi, P., Yu, C.-Y., Zeballos, M., Zhang, S., Ziurys, L., and Event Horizon Telescope Collaboration. *A&A* 640, A69 (2020)

*ATLASGAL-selected massive clumps in the inner Galaxy. VIII. Chemistry of photodissociation regions.*

Kim, W. -J., Wyrowski, F., Urquhart, J. S., Pérez-Beaupuits, J. P., Pillai, T., Tiwari, M., Menten, K. M. *A&A* 644, A160 (2020)

*The Physical Parameters of Clumps Associated with Class I Methanol Masers.*

Ladeyschikov, D.A., Urquhart, J.S., Sobolev, A.M., Breen, S.L., and Bayandina, O.S. *AJ* 160, 213 (2020)

*A Mean Density of  $112 M_{\odot} \text{pc}^{-3}$  for Central Molecular Zone Clumps—Evidences for Shear-enabled Pressure Equilibrium in the Galactic Center.*

Li, G.-X. and Zhang, C.-P. *ApJ* 897, 89 (2020)

*ALMA Observations of NGC 6334S. I. Forming Massive Stars and Clusters in Subsonic and Transonic Filamentary Clouds.*

Li, S., Zhang, Q., Liu, H.B., Beuther, H., Palau, A., Girart, J.M., Smith, H., Hora, J.L., Lin, Y., Qiu, K., Strom, S., Wang, J., Li, F., Yue, N. *ApJ* 896, 110 (2020)

*Chemistry of Protostellar Clumps in the High-mass, Star-forming Filamentary Infrared Dark Cloud G034.43+00.24.*

Liu, H.-L., Sanhueza, P., Liu, T., Zavagno, A., Tang, X.-D., Wu, Y., and Zhang, S. *ApJ* 901, 31 (2020)

*Discovery of a mid-infrared protostellar outburst of exceptional amplitude.*

Lucas, P. W., Elias, J., Points, S., Guo, Z., Smith, L. C., Stecklum, B., Vorobyov, E., Morris, C., Borissova, J., Kurtev, R., Contreras Peña, C., Medina, N., Minniti, D., Ivanov, V.D., Saito, R. K.  
MNRAS 499, 1805 (2020)

*What did the seahorse swallow? APEX 170 GHz observations of the chemical conditions in the Seahorse infrared dark cloud.*

Miettinen, O.  
A&A 639, A65 (2020)

*Dense cores in the Seahorse infrared dark cloud: physical properties from modified blackbody fits to the far-infrared-submillimetre spectral energy distributions.*

Miettinen, O.  
A&A 644, A82 (2020)

*APEX observations of ortho-H<sub>2</sub>D<sup>+</sup> towards dense cores in the Orion B9 filament.*

Miettinen, O.  
A&A 634, A115 (2020)

*An APEX survey of outflow and infall toward the youngest protostars in Orion.*

Nagy, Z., Menechella, A., Megeath, S. T., Tobin, J. J., Booker, J. J., Fischer, W. J., Manoj, P., Stanke, T., Stutz, A., Wyrowski, F.  
A&A 642, A137 (2020)

*Cosmic evolution of molecular gas mass density from an empirical relationship between  $L_{1.4\text{ GHz}}$  and  $L'_{\text{CO}}$ .*

Orellana-González, G., Ibar, E., Leiton, R., Thomson, A. P., Cheng, C., Ivison, R. J., Herrera-Camus, R., Messias, H., Calderón-Castillo, P., Hughes, T. M., Leeuw, L.  
MNRAS 495, 1760 (2020)

*Probing the early phases of high-mass star formation with 6.7 GHz methanol masers.*

Paulson, S.T., Pandian, J.D.  
MNRAS 492, 1335 (2020)

*The accretion history of high-mass stars: an ArTéMiS pilot study of infrared dark clouds.*

Peretto, N., Rigby, A., André, Ph, Könyves, V., Fuller, G., Zavagno, A., Schuller, F., Arzoumanian, D., Bontemps, S., Csengeri, T., Didelon, P., Duarte-Cabral, A., Palmeirim, P., Pezzuto, S., Revéret, V., Roussel, H., Shimajiri, Y.  
MNRAS 496, 3482 (2020)

*Linking ice and gas in the Serpens low-mass star-forming region.*

Perotti, G., Rocha, W. R. M., Jørgensen, J. K., Kristensen, L. E., Fraser, H. J., Pontoppidan, K. M.  
A&A 643, A48 (2020)

*The Lyman Alpha Reference Sample. XI. Efficient turbulence-driven Ly $\alpha$  escape and an analysis of IR, CO, and [C II]158  $\mu$ m.*

Puschnig, J., Hayes, M., Östlin, G., Cannon, J., Smirnova-Pinchukova, I., Husemann, B., Kunth, D., Bridge, J., Herenz, E. C., Messa, M., Oteo, I.  
A&A 644, A10 (2020)

*Effect of Feedback of Massive Stars in the Fragmentation, Distribution, and Kinematics of the Gas in Two Star-forming Regions in the Carina Nebula.*

Rebolledo, D., Guzmán, A.E., Contreras, Y., Garay, G., Medina, S.-N.X., Sanhueza, P., Green, A.J., Castro, C., Guzmán, V., and Burton, M.G.  
ApJ 891, 113 (2020)

*Illuminating a tadpole's metamorphosis II: observing the ongoing transformation with ALMA.*

Reiter, M., Guzmán, A.E., Haworth, T.J., Klaassen, P.D., McLeod, A.F., Garay, G., and Mottram, J.C.  
MNRAS 496, 394 (2020)

*The Complete Redshift Distribution of Dusty Star-forming Galaxies from the SPT-SZ Survey.*

Reuter, C., Vieira, J. D., Spilker, J. S., Weiss, A., Aravena, M., Archipley, M., Béthermin, M., Chapman, S. C., De Breuck, C., Dong, C., Everett, W. B., Fu, J., Greve, T. R., Hayward, C.C., Hill, R., Hezaveh, Y., Jarugula, S., Litke, K., Malkan, M., Marrone, D. P., Narayanan, D., Phadke, K. A., Stark, A. A., Strandet, M. L.  
ApJ 902, 78 (2020)

*First Detection of the [O i] 63  $\mu$ m Emission from a Redshift 6 Dusty Galaxy.*

Rybak, M., Zavala, J.A., Hodge, J.A., Casey, C.M., and Werf, P. van . der .  
ApJL 889, L11 (2020)

*Survey of ortho-H<sub>2</sub>D<sup>+</sup> in high-mass star-forming regions.*

Sabatini, G., Bovino, S., Giannetti, A., Wyrowski, F., Órdenes, M. A., Pascale, R., Pillai, T., Wienen, M., Csengeri, T., Menten, K. M.  
A&A 644, A34 (2020)

*Molecular gas in the central region of NGC 7213.*

Salvestrini, F., Gruppioni, C., Pozzi, F., Vignali, C., Giannetti, A., Paladino, R., Hatziminaoglou, E.  
A&A 641, A151 (2020)

*The Molecular Outflow from R Mon.*

Sandell, G., Vacca, W., Bouscasse, L., and Güsten, R.  
ApJ 889, 138 (2020)

*FEEDBACK: a SOFIA Legacy Program to Study Stellar Feedback in Regions of Massive Star Formation.*

Schneider, N., Simon, R., Guevara, C., Buchbender, C., Higgins, R. D., Okada, Y., Stutzki, J., Güsten, R., Anderson, L. D., Bally, J., Beuther, H., Bonne, L., Bontemps, S., Chambers, E., Csengeri, T., Graf, U. U., Gusdorf, A., Jacobs, K., Justen, M., Kabanovic, S., Karim, R., Luisi, M., Menten, K., Mertens, M., Mookerjea, B., Ossenkopf-Okada, V., Pabst, C., Pound, M. W., Richter, H., Reyes, N., Ricken, O., Röllig, M., Russeil, D., Sánchez-Monge, Á., Sandell, G., Tiwari, M., Wiesemeyer, H., Wolfire, M., Wyrowski, F., Zavagno, A., Tielens, A.G.G.M.  
PASP 132, 104301 (2020)

*Oversized Gas Clumps in an Extremely Metal-poor Molecular Cloud Revealed by ALMA's Parsec-scale Maps.*

Shi, Y., Wang, J., Zhang, Z.-Y., Zhang, Q., Gao, Y., Zhou, L., Gu, Q., Qiu, K., Xia, X.-Y., Hao, C.-N., and Chen, Y.  
ApJ 892, 147 (2020)

*Cause and effects of the massive star formation in Messier 8 East.*

Tiwari, M., Menten, K. M., Wyrowski, F., Giannetti, A., Lee, M. -Y., Kim, W. -J., Pérez-Beaupuits, J. P.  
A&A 644, A25 (2020)

*ALMA resolves molecular clouds in metal-poor Magellanic Bridge A.*

Valdivia-Mena, M. T., Rubio, M., Bolatto, A. D., Saldaño, H. P., Verdugo, C.  
A&A 641, A97 (2020)

*Monitoring the Morphology of M87\* in 2009-2017 with the Event Horizon Telescope.*

Wielgus, M., Akiyama, K., Blackburn, L., Chan, C.-kwan., Dexter, J., Doeleman, S.S., Fish, V.L., Issaoun, S., Johnson, M.D., Krichbaum, T.P., Lu, R.-S., Pesce, D.W., Wong, G.N., Bower, G.C., Broderick, A.E., Chael, A., Chatterjee, K., Gammie, C.F., Georgiev, B., Hada, K., Loinard, L., Markoff, S., Marrone, D.P., Plambeck, R., Weintraub, J., Dexter, M., MacMahon, D.H.E., Wright, M., Alberdi, A., Alef, W., Asada, K., Azulay, R., Baczko, A.-K., Ball, D., Baloković, M., Barausse, E., Barrett, J., Bintley, D., Boland, W., Bouman, K.L., Bremer, M., Brinkerink, C.D., Brissenden, R., Britzen, S., Brogiere, D., Bronzwaer, T., Byun, D.-Y., Carlstrom, J.E., Chatterjee, S., Chen, M.-T., Chen, Y., Cho, I., Christian, P., Conway, J.E., Cordes, J.M., Crew, G.B., Cui, Y., Davelaar, J., Laurentis, M.D., Deane, R., Dempsey, J., Desvignes, G., Dzib, S.A., Eatough, R.P., Falcke, H., Fomalont, E., Fraga-Encinas, R., Friberg, P., Fromm, C.M., Galison, P., García, R., Gentaz, O., Goddi, C., Gold, R., Gómez, J.L., Gómez-Ruiz, A.I., Gu, M., Gurwell, M., Hecht, M.H., Hesper, R., Ho, L.C., Ho, P., Honma, M., Huang, C.-W.L., Huang, L., Hughes, D.H., Inoue, M., James, D.J., Jannuzi, B.T., Janssen, M., Jeter, B., Jiang, W., Jimenez-Rosales, A., Jorstad, S., Jung, T., Karami, M., Karuppusamy, R., Kawashima, T., Keating, G.K., Kettenis, M., Kim, J.-Y., Kim, J., Kim, J., Kino, M., Koay, J.Y., Koch, P.M., Koyama, S., Kramer, M., Kramer, C., Kuo, C.-Y., Lauer, T.R., Lee, S.-S., Li, Y.-R., Li, Z., Lindqvist, M., Lico, R., Liu, K., Liuzzo, E., Lo, W.-P., Lobanov, A.P., Lonsdale, C., MacDonald, N.R., Mao, J., Marchili, N., Marscher, A.P., Martí-Vidal, I., Matsushita, S., Matthews, L.D., Medeiros, L., Menten, K.M., Mizuno, Y., Mizuno, I., Moran, J.M., Moriyama, K., Moscibrodzka, M., Müller, C., Musoke, G., Nagai, H., Nagar, N.M., Nakamura, M., Narayan, R., Narayanan, G., Natarajan, I., Nathanail, A., Neri, R., Ni, C., Noutsos, A., Okino, H., Olivares, H., Ortiz-León, G.N., Oyama, T., Özel, F., Palumbo, D.C.M., Park, J., Patel, N., Pen, U.-L., Piétu, V.,

PopStefanija, A., Porth, O., Prather, B., Preciado-López, J.A., Psaltis, D., Pu, H.-Y., Ramakrishnan, V., Rao, R., Rawlings, M.G., Raymond, A.W., Rezzolla, L., Ripperda, B., Roelofs, F., Rogers, A., Ros, E., Rose, M., Roshanineshat, A., Rottmann, H., Roy, A.L., Ruzsczyk, C., Ryan, B.R., Rygl, K.L.J., Sánchez, S., Sánchez-Arguelles, D., Sasada, M., Savolainen, T., Schloerb, F.P., Schuster, K.-F., Shao, L., Shen, Z., Small, D., Sohn, B.W., SooHoo, J., Tazaki, F., Tiede, P., Tilanus, R.P.J., Titus, M., Toma, K., Torne, P., Trent, T., Traianou, E., Trippe, S., Tsuda, S., Bemmell, I. van ., van Langevelde, H.J., van Rossum, D.R., Wagner, J., Wardle, J., Ward-Thompson, D., Wex, N., Wharton, R., Wu, Q., Yoon, D., Young, A., Young, K., Younsi, Z., Yuan, F., Yuan, Y.-F., Zensus, J.A., Zhao, G., Zhao, S.-S., and Zhu, Z.  
ApJ 901, 67 (2020)

*ALFOS + Fornax3D: resolved star formation in the Fornax cluster with ALMA and MUSE.*  
Zabel, N., Davis, T. A., Sarzi, M., Nedelchev, Boris, Chevance, M., Kruijssen, J. M. Diederik, Iodice, E., Baes, M., Bendo, G. J., Corsini, E. Maria, De Looze, I., de Zeeuw, P. Tim, Gadotti, D. A., Grossi, M., Peletier, R., Pinna, F., Serra, Paolo, van de Voort, F., Venhola, A., Viaene, S., Vlahakis, C.  
MNRAS 496, 2155 (2020)

*The role of Galactic H II regions in the formation of filaments. High-resolution submillimeter imaging of RCW 120 with ArTéMiS.*  
Zavagno, A., André, Ph., Schuller, F., Peretto, N., Shimajiri, Y., Arzoumanian, D., Csengeri, T., Figueira, M., Fuller, G. A., Könyves, V., Men'shchikov, A., Palmeirim, P., Roussel, H., Russeil, D., Schneider, N., Zhang, S.  
A&A 638, A7 (2020)

*Cloud-cloud collision as drivers of the chemical complexity in Galactic Centre molecular clouds.*  
Zeng, S., Zhang, Q., Jiménez-Serra, I., Tercero, B., Lu, X., Martín-Pintado, J., de Vicente, P., Rivilla, V. M., Li, S.  
MNRAS 497, 4896 (2020)

*H II regions and high-mass starless clump candidates. I. Catalogs and properties.*  
Zhang, S., Zavagno, A., Yuan, J., Liu, H., Figueira, M., Russeil, D., Schuller, F., Marsh, K.A., Wu, Y.  
A&A 637, A40 (2020)

## **Astronomy: ALMA**

Publications with Nordic authors.

*ALMA resolves the remarkable molecular jet and rotating wind in the extremely radio-quiet galaxy NGC 1377.*  
Aalto, S., Falstad, N., Muller, S., Wada, K., Gallagher, J. S., König, S., Sakamoto, K., Vlemmings, W., Ceccobello, C., Dasyra, K., Combes, F., Garcia-Burillo, S., Oya, Y., Martin, S., van der Werf, P., Evans, A. S., & Kotilainen, J.  
A&A 640, A104 (2020)

*Infalling gas in a Lyman-alpha blob.*

Ao, Y., Zheng, Z., Henkel, C., Nie, S., Beelen, A., Cen, R., Dijkstra, M., Francis, P. J., Geach, J. E., Kohno, K., Lehnert, M. D., Menten, K. M., Wang, J., & Weiss, A.  
Nature Astronomy 4, 670 (2020)

*ALMA uncovers the [C II] emission and warm dust continuum in a  $z = 8.31$  Lyman break galaxy.*

Bakx, T. J. L. C., Tamura, Y., Hashimoto, T., Inoue, A. K., Lee, M. M., Mawatari, K., Ota, K., Umehata, H., Zackrisson, E., Hatsukade, B., Kohno, K., Matsuda, Y., Matsuo, H., Okamoto, T., Shibuya, T., Shimizu, I., Taniguchi, Y., & Yoshida, N.  
MNRAS 493, 4294 (2020)

*The ALPINE-ALMA [CII] survey: Data processing, catalogs, and statistical source properties.*

Bethermin, M., Fudamoto, Y., Ginolfi, M., Loiacono, F., Khusanova, Y., Capak, P. L., Cassata, P., Faisst, A., Le Fevre, O., Schaerer, D., Silverman, J. D., Yan, L., Amorin, R., Bardelli, S., Boquien, M., Cimatti, A., Davidzon, I., Dessauges-Zavadsky, M., Fujimoto, S., Gruppioni, C., Hathi, N. P., Ibar, E., Jones, G. C., Koekemoer, A. M., Lagache, G., Lemaux, B. C., Moreau, C., Oesch, P. A., Pozzi, F., Riechers, D. A., Talia, M., Toft, S., Vallini, L., Vergani, D., Zamorani, G., & Zucca, E.  
A&A 643, A2 (2020)

*Gravity and Rotation Drag the Magnetic Field in High-mass Star Formation.*

Beuther, H., Soler, J. D., Linz, H., Henning, T., Gieser, C., Kuiper, R., Vlemmings, W., Hennebelle, P., Feng, S., Smith, R., & Ahmadi, A.  
ApJ 904, 168 (2020)

*The Surprisingly Low Carbon Mass in the Debris Disk around HD 32297.*

Cataldi, G., Wu, Y., Brandeker, A., Ohashi, N., Moor, A., Olofsson, G., Abraham, P., Asensio-Torres, R., Cavallius, M., Dent, W. R. F., Grady, C., Henning, T., Higuchi, A. E., Hughes, A. M., Janson, M., Kamp, I., Kospal, A., Redfield, S., Roberge, A., Weinberger, A., & Welsh, B.  
ApJ 892, 99 (2020)

*Gas Kinematics of the Massive Protocluster G286.21+0.17 Revealed by ALMA.*

Cheng, Y., Tan, J. C., Liu, M., Lim, W., & Andersen, M.  
ApJ 894, 87 (2020)

*The [C II]/[N II] ratio in  $3 < z < 6$  sub-millimetre galaxies from the South Pole Telescope survey.*

Cunningham, D. J. M., Chapman, S. C., Aravena, M., De Breuck, C., Bethermin, M., Chen, C.-C., Dong, C., Gonzalez, A. H., Greve, T. R., Litke, K. C., Ma, J., Malkan, M., Marrone, D. P., Miller, T., Phadke, K. A., Reuter, C., Rotermund, K., Spilker, J. S., Stark, A. A., Strandet, M., Vieira, J. D., & Weiß, A.  
MNRAS 494, 4090 (2020)

*The multi-thermal chromosphere. Inversions of ALMA and IRIS data.*

da Silva Santos, J. M., de la Cruz Rodriguez, J., Leenaarts, J., Chintzoglou, G., De Pontieu, B., Wedemeyer, S., & Szydlarski, M.  
A&A 634, A56 (2020)

*ALMA observations of transient heating in a solar active region.*

da Silva Santos, J. M., de la Cruz Rodriguez, J., White, S. M., Leenaarts, J., Vissers, G. J. M., & Hansteen, V. H.

A&A 643, A41 (2020)

*Ultracompact H II regions with extended emission: the case of G43.89-0.78 and its molecular environment.*

de la Fuente, Eduardo; Tafuya, Daniel; Trinidad, Miguel A.; Porras, Alicia; Nigoche-Netro, Alberto; Kemp, Simon N.; Kurtz, Stanley E.; Franco, José; Rodríguez-Rico, Carlos A.

MNRAS 497, 4436 (2020)

*(Sub)stellar companions shape the winds of evolved stars.*

Decin, L., Montarges, M., Richards, A. M. S., Gottlieb, C. A., Homan, W., McDonald, I., El Mellah, I., Danilovich, T., Wallström, S. H. J., Zijlstra, A., Baudry, A., Bolte, J., Cannon, E., De Beck, E., De Ceuster, F., de Koter, A., De Ridder, J., Etoke, S., Gobrecht, D., Gray, M., Herpin, F., Jeste, M., Lagadec, E., Kervella, P., Khouri, T., Menten, K., Millar, T. J., Müller, H. S. P., Plane, J. M. C., Sahai, R., Sana, H., Van de Sande, M., Waters, L. B. F. M., Wong, K. T., & Yates, J.

Science 369, 1497 (2020)

*GRB 190114C in the nuclear region of an interacting galaxy. A detailed host analysis using ALMA, the HST, and the VLT.*

de Ugarte Postigo, A., Thöne, C. C., Martin, S., Japelj, J., Levan, A. J., Michalowski, M. J., Selsing, J., Kann, D. A., Schulze, S., Palmerio, J. T., Vergani, S. D., Tanvir, N. R., Bensch, K., Covino, S., D'Elia, V., De Pasquale, M., Fruchter, A. S., Fynbo, J. P. U., Hartmann, D., Heintz, K. E., van der Horst, A. J., Izzo, L., Jakobsson, P., Ng, K. C. Y., Perley, D. A., Rossi, A., Sbarufatti, B., Salvaterra, R., Sanchez-Ramirez, R., Watson, D., & Xu, D.

A&A 633, A68 (2020)

*The extended molecular envelope of the asymptotic giant branch star  $\pi^l$  Gruis as seen by ALMA. II. The spiral-outflow observed at high-angular resolution.*

Doan, L., Ramstedt, S., Vlemmings, W. H. T., Mohamed, S., Höfner, S., De Beck, E., Kerschbaum, F., Lindqvist, M., Maercker, M., Paladini, C., & Wittkowski, M.

A&A 633, A13 (2020)

*In pursuit of giants. I. The evolution of the dust-to-stellar mass ratio in distant dusty galaxies.*

Donevski, D., Lapi, A., Malek, K., Liu, D., Gomez-Guijarro, C., Dave, R., Kraljic, K., Pantoni, L., Man, A., Fujimoto, S., Feltre, A., Pearson, W., Li, Q., & Narayanan, D.

A&A 644, A144 (2020)

*ALMA Survey of Orion Planck Galactic Cold Clumps (ALMASOP). II. Survey Overview: A First Look at 1.3 mm Continuum Maps and Molecular Outflows.*

Dutta, S., Lee, C.-F., Liu, T., Hirano, N., Liu, S.-Y., Tatematsu, K., Kim, K.-T., Shang, H., Sahu, D., Kim, G., Moraghan, A., Jhan, K.-S., Hsu, S.-Y., Evans, N. J., Johnstone, D., Ward-Thompson, D., Kuan, Y.-J., Lee, C. W., Lee, J.-E., Traficante, A., Juvela, M., Vastel, C., Zhang, Q., Sanhueza, P., Soam, A., Kwon, W., Bronfman, L., Eden, D., Goldsmith, P. F., He, J., Wu, Y., Pelkonen, V.-M., Qin, S.-L., Li, S., & Li, D.

ApJ Supplement Series 251, 20 (2020)

*The Sun at millimeter wavelengths. II. Small-scale dynamic events in ALMA Band 3.*  
Eklund, H., Wedemeyer, S., Szydlarski, M., Jafarzadeh, S., & Guevara Gomez, J. C.  
A&A 644, A152 (2020)

*Super Star Clusters in the Central Starburst of NGC 4945.*  
Emig, K. L., Bolatto, A. D., Leroy, A. K., Mills, E. A. C., Jiminez Donaire, M. J.,  
Tielens, A.G.G.M., Ginsburg, A., Gorski, M., Krieger, N., Levy, R. C., Meier, D. S., Ott, J.,  
Rosolowsky, E., Thompson, T. A., & Veilleux, S.  
ApJ 903, 50 (2020)

*ALMA characterizes the dust temperature of  $z \sim 5.5$  star-forming galaxies.*  
Faisst, A. L., Fudamoto, Y., Oesch, P. A., Scoville, N., Riechers, D. A., Pavesi, R., &  
Capak, P.  
MNRAS 498, 4192 (2020)

*A CO molecular gas wind 340 pc away from the Seyfert 2 nucleus in ESO 420-G13 probes an elusive radio jet.*  
Fernandez-Ontiveros, J. A., Dasyra, K. M., Hatziminaoglou, E., Malkan, M. A., Pereira-Santaella, M., Papachristou, M., Spinoglio, L., Combes, F., Aalto, S., Nagar, N., Imanishi, M., Andreani, P., Ricci, C., & Slater, R.  
A&A 633, A127 (2020)

*SMM J04135+10277: a distant QSO-starburst system caught by ALMA.*  
Fogasy, J., Knudsen, K. K., Drouart, G., Lagos, C. D. P., & Fan, L.  
MNRAS 493, 3744 (2020)

*GOODS-ALMA: Using IRAC and VLA to probe fainter millimeter galaxies.*  
Franco, M., Elbaz, D., Zhou, L., Magnelli, B., Schreiber, C., Ciesla, L., Dickinson, M.,  
Nagar, N., Magdis, G., Alexander, D. M., Bethermin, M., Demarco, R., Daddi, E., Wang, T.,  
Mullaney, J., Inami, H., Shu, X., Bournaud, F., Chary, R., Coogan, R. T., Ferguson, H.,  
Finkelstein, S. L., Giavalisco, M., Gomez-Guijarro, C., Iono, D., Juneau, S., Lagache, G.,  
Lin, L., Motohara, K., Okumura, K., Pannella, M., Papovich, C., Pope, A., Rujopakarn, W.,  
Silverman, J., & Xiao, M.  
A&A 643, A53 (2020)

*GOODS-ALMA: The slow downfall of star formation in  $z = 2-3$  massive galaxies.*  
Franco, M., Elbaz, D., Zhou, L., Magnelli, B., Schreiber, C., Ciesla, L., Dickinson, M.,  
Nagar, N., Magdis, G., Alexander, D. M., Bethermin, M., Demarco, R., Daddi, E., Wang, T.,  
Mullaney, J., Sargent, M., Inami, H., Shu, X., Bournaud, F., Chary, R., Coogan, R. T.,  
Ferguson, H., Finkelstein, S. L., Giavalisco, M., Gomez-Guijarro, C., Iono, D., Juneau, S.,  
Lagache, G., Lin, L., Motohara, K., Okumura, K., Pannella, M., Papovich, C., Pope, A.,  
Rujopakarn, W., Silverman, J., & Xiao, M.  
A&A 643, A30 (2020)

*The ALPINE-ALMA [CII] survey. Dust attenuation properties and obscured star formation at  $z \sim 4.4-5.8$ .*

Fudamoto, Y., Oesch, P. A., Faisst, A., Bethermin, M., Ginolfi, M., Khusanova, Y., Loiacono, F., Le Fevre, O., Capak, P., Schaerer, D., Silverman, J. D., Cassata, P., Yan, L., Amorin, R., Bardelli, S., Boquien, M., Cimatti, A., Dessauges-Zavadsky, M., Fujimoto, S., Gruppioni, C., Hathi, N. P., Ibar, E., Jones, G. C., Koekemoer, A. M., Lagache, G., Lemaux, B. C., Maiolino, R., Narayanan, D., Pozzi, F., Riechers, D. A., Rodighiero, G., Talia, M., Toft, S., Vallini, L., Vergani, D., Zamorani, G., & Zucca, E.  
A&A 643, A4 (2020)

*A3COSMOS: the dust attenuation of star-forming galaxies at  $z = 2.5-4.0$  from the COSMOS-ALMA archive.*

Fudamoto, Y., Oesch, P. A., Magnelli, B., Schinnerer, E., Liu, D., Lang, P., Jimenez-Andrade, E. F., Groves, B., Leslie, S., & Sargent, M. T.  
MNRAS 491, 4724 (2020)

*Gas kinematics of key prebiotic molecules in GV Tau N revealed with an ALMA, PdBI, and Herschel synergy.*

Fuente, A., Trevino-Morales, S. P., Le Gal, R., Riviere-Marichalar, P., Pilleri, P., Rodriguez-Baras, M., & Navarro-Almaida, D.  
MNRAS 496, 5330 (2020)

*Truth or Delusion? A Possible Gravitational Lensing Interpretation of the Ultraluminous Quasar SDSS J010013.02+280225.8 at  $z = 6.30$ .*

Fujimoto, S., Oguri, M., Nagao, T., Izumi, T., & Ouchi, M.  
ApJ 891, 64 (2020)

*The ALPINE-ALMA [C II] Survey: Size of Individual Star-forming Galaxies at  $z = 4-6$  and Their Extended Halo Structure.*

Fujimoto, S., Silverman, J. D., Bethermin, M., Ginolfi, M., Jones, G. C., Le Fevre, O., Dessauges-Zavadsky, M., Rujopakarn, W., Faisst, A. L., Fudamoto, Y., Cassata, P., Morselli, L., Maiolino, R., Schaerer, D., Capak, P., Yan, L., Vallini, L., Toft, S., Loiacono, F., Zamorani, G., Talia, M., Narayanan, D., Hathi, N. P., Lemaux, B. C., Boquien, M., Amorin, R., Ibar, E., Koekemoer, A. M., Mendez-Hernandez, H., Bardelli, S., Vergani, D., Zucca, E., Romano, M., & Cimatti, A.  
ApJ 900, 1 (2020)

*Verification of Radiative Transfer Schemes for the EHT.*

Gold, R., Broderick, A. E., Younsi, Z., Fromm, C. M., Gammie, C. F., Moscibrodzka, M., Pu, H.-Y., Bronzwaer, T., Davelaar, J., Dexter, J., Ball, D., Chan, C.-kwan., Kawashima, T., Mizuno, Y., Ripperda, B., Akiyama, K., Alberdi, A., Alef, W., Asada, K., Azulay, R., Baczko, A.-K., Balokovic, M., Barrett, J., Bintley, D., Blackburn, L., Boland, W., Bouman, K. L., Bower, G. C., Bremer, M., Brinkerink, C. D., Brissenden, R., Britzen, S., Brogiere, D., Byun, D.-Y., Carlstrom, J. E., Chael, A., Chatterjee, K., Chatterjee, S., Chen, M.-T., Chen, Y., Cho, I., Christian, P., Conway, J. E., Cordes, J. M., Crew, G. B., Cui, Y., De Laurentis, M., Deane, R., Dempsey, J., Desvignes, G., Doeleman, S. S., Eatough, R. P., Falcke, H., Fish, V. L., Fomalont, E., Fraga-Encinas, R., Freeman, B., Friberg, P., Gomez, J. L., Galison, P., Garcia, R., Gentaz, O., Georgiev, B., Goddi, C., Gu, M., Gurwell, M., Hada, K., Hecht, M. H., Hesper, R., Ho, L. C., Ho, P., Honma, M., Huang, C.-W. L., Huang, L., Hughes, D. H., Inoue, M., Issaoun, S., James, D. J.,

Jannuzi, B. T., Janssen, M., Jeter, B., Jiang, W., Jimenez-Rosales, A., Johnson, M. D., Jorstad, S., Jung, T., Karami, M., Karuppusamy, R., Keating, G. K., Kettenis, M., Kim, J.-Y., Kim, J., Kim, J., Kino, M., Koay, J. Y., Koch, P. M., Koyama, S., Kramer, M., Kramer, C., Krichbaum, T. P., Kuo, C.-Y., Lauer, T. R., Lee, S.-S., Li, Y.-R., Li, Z., Lico, R., Lindqvist, M., Liu, K., Liuzzo, E., Lo, W.-P., Lobanov, A. P., Loinard, L., Lonsdale, C., Lu, R.-S., MacDonald, N. R., Markoff, S., Mao, J., Marrone, D. P., Marscher, A. P., Marti-Vidal, I., Matsushita, S., Matthews, L. D., Medeiros, L., Menten, K. M., Mizuno, I., Moran, J. M., Moriyama, K., Müller, C., Nagai, H., Nakamura, M., Nagar, N. M., Narayan, R., Narayanan, G., Natarajan, I., Neri, R., Ni, C., Noutsos, A., Okino, H., Ortiz-Leon, G. N., Oyama, T., Özel, F., Palumbo, D. C. M., Park, J., Patel, N., Pen, U.-L., Pesce, D. W., Plambeck, R., Pietu, V., PopStefanija, A., Porth, O., Preciado-Lopez, J. A., Psaltis, D., Ramakrishnan, V., Rao, R., Rawlings, M. G., Raymond, A. W., Rezzolla, L., Roelofs, F., Rogers, A., Ros, E., Rose, M., Roshanineshat, A., Rottmann, H., Roy, A. L., Ruzsczyk, C., Rygl, K. L. J., Sanchez, S., Sanchez-Arguelles, D., Sasada, M., Savolainen, T., Schuster, K. F., Schloerb, F. P., Shao, L., Shen, Z., Small, D., Sohn, B. W., SooHoo, J., Tiede, P., Tazaki, F., Tilanus, R. P. J., Titus, M., Toma, K., Torne, P., Trent, T., Traianou, T., Trippe, S., Tsuda, S., van Langevelde, H. J., van Bemmell, I., van Rossum, D. R., Wagner, J., Wardle, J., Wex, N., Weintraub, J., Wharton, R., Wielgus, M., Wong, G. N., Wu, Q., Yoon, D., Young, K., Young, A., Yuan, F., Yuan, Y.-F., Zensus, J. A., Zhao, G., Zhao, S.-S., Zhu, Z., & Event Horizon Telescope Collaboration.  
ApJ 897, 148 (2020)

*Efficient Methanol Production on the Dark Side of a Prestellar Core.*

Harju, J., Pineda, J. E., Vasyunin, A. I., Caselli, P., Offner, S. S. R., Goodman, A. A., Juvela, M., Sipilä, O., Faure, A., Le Gal, R., Hily-Blant, P., Alves, J., Bizzocchi, L., Burkert, A., Chen, H., Friesen, R. K., Güsten, R., Myers, P. C., Punanova, A., Rist, C., Rosolowsky, E., Schlemmer, S., Shirley, Y., Spezzano, S., Vastel, C., & Wiesenfeld, L.  
ApJ 895, 101 (2020)

*Missing water in Class I protostellar disks.*

Harsono, D., Persson, M. V., Ramos, A., Murillo, N. M., Maud, L. T., Hogerheijde, M. R., Bosman, A. D., Kristensen, L. E., Jørgensen, J. K., Bergin, E. A., Visser, R., Mottram, J. C., & van Dishoeck, E. F.  
A&A 636, A26 (2020)

*Megaparsec-scale structure around the protocluster core SPT2349-56 at  $z = 4.3$ .*

Hill, R., Chapman, S., Scott, D., Apostolovski, Y., Aravena, M., Bethermin, M., Bradford, C. M., Canning, R. E. A., De Breuck, C., Dong, C., Gonzalez, A., Greve, T. R., Hayward, C. C., Hezaveh, Y., Litke, K., Malkan, M., Marrone, D. P., Phadke, K., Reuter, C., Rotermund, K., Spilker, J., Vieira, J. D., & Weiß, A.  
MNRAS 495, 3124 (2020)

*ALMA Survey of Orion Planck Galactic Cold Clumps (ALMASOP). I. Detection of New Hot Corinos with the ACA.*

Hsu, S.-Y., Liu, S.-Y., Liu, T., Sahu, D., Hirano, N., Lee, C.-F., Tatematsu, K., Kim, G., Juvela, M., Sanhueza, P., He, J., Johnstone, D., Qin, S.-L., Bronfman, L., Chen, H.-R. V., Dutta, S., Eden, D. J., Jhan, K.-S., Kim, K.-T., Kuan, Y.-J., Kwon, W., Lee, C. W., Lee, J.-E., Moraghan, A., Rawlings, M. G., Shang, H., Soam, A., Thompson, M. A., Traficante, A., Wu, Y., Yang, Y.-L., & Zhang, Q.  
ApJ 898, 107 (2020)

*Mapping Circumstellar Magnetic Fields of Late-type Evolved Stars with the Goldreich-Kylafis Effect: CARMA Observations at  $\text{CE}^{1.3}$  mm of R Crt and R Leo.*

Huang, K.-Y., Kembell, A. J., Vlemmings, W. H. T., Lai, S.-P., Yang, L., & Agudo, I.  
ApJ 899, 152 (2020)

*ALMA 0"02 Resolution Observations Reveal HCN-abundance-enhanced Counter-rotating and Outflowing Dense Molecular Gas at the NGC 1068 Nucleus.*

Imanishi, M., Nguyen, D. D., Wada, K., Hagiwara, Y., Iguchi, S., Izumi, T., Kawakatu, N., Nakanishi, K., & Onishi, K.  
ApJ 902, 99 (2020)

*High Molecular Gas Masses in Absorption-selected Galaxies at  $z \approx 2$ .*

Kanekar, N., Prochaska, J. X., Neeleman, M., Christensen, L., Møller, P., Zwaan, M. A., Fynbo, J. P. U., & Dessauges-Zavadsky, M.  
ApJ 901, L5 (2020)

*AGN X-Ray Irradiation of CO Gas in NGC 2110 Revealed by Chandra and ALMA.*

Kawamuro, T., Izumi, T., Onishi, K., Imanishi, M., Nguyen, D. D., & Baba, S.  
ApJ 895, 135 (2020)

*Event Horizon Telescope imaging of the archetypal blazar 3C 279 at an extreme 20 microarcsecond resolution.*

Kim, J.-Y., Krichbaum, T. P., Broderick, A. E., Wielgus, M., Blackburn, L., Gomez, J. L., Johnson, M. D., Bouman, K. L., Chael, A., Akiyama, K., Jorstad, S., Marscher, A. P., Issaoun, S., Janssen, M., Chan, C.-kwan., Savolainen, T., Pesce, D. W., Özel, F., Alberdi, A., Alef, W., Asada, K., Azulay, R., Baczko, A.-K., Ball, D., Balokovic, M., Barrett, J., Bintley, D., Boland, W., Bower, G. C., Bremer, M., Brinkerink, C. D., Brissenden, R., Britzen, S., Brogiere, D., Bronzwaer, T., Byun, D.-Y., Carlstrom, J. E., Chatterjee, S., Chatterjee, K., Chen, M.-T., Chen, Y., Cho, I., Christian, P., Conway, J. E., Cordes, J. M., Crew, G. B., Cui, Y., Davelaar, J., De Laurentis, M., Deane, R., Dempsey, J., Desvignes, G., Dexter, J., Doeleman, S. S., Eatough, R. P., Falcke, H., Fish, V. L., Fomalont, E., Fraga-Encinas, R., Friberg, P., Fromm, C. M., Galison, P., Gammie, C. F., Garcia, R., Gentaz, O., Georgiev, B., Goddi, C., Gold, R., Gomez-Ruiz, A. I., Gu, M., Gurwell, M., Hada, K., Hecht, M. H., Hesper, R., Ho, L. C., Ho, P., Honma, M., Huang, C.-W. L., Huang, L., Hughes, D. H., Ikeda, S., Inoue, M., James, D. J., Jannuzi, B. T., Jeter, B., Jiang, W., Jimenez-Rosales, A., Jung, T., Karami, M., Karuppusamy, R., Kawashima, T., Keating, G. K., Kettenis, M., Kim, J., Kim, J., Kino, M., Koay, J. Y., Koch, P. M., Koyama, S., Kramer, M., Kramer, C., Kuo, C.-Y., Lauer, T. R., Lee, S.-S., Li, Y.-R., Li, Z., Lindqvist, M., Lico, R., Liu, K., Liuzzo, E., Lo, W.-P., Lobanov, A. P., Loinard, L., Lonsdale, C., Lu, R.-S., MacDonald, N. R., Mao, J., Markoff, S., Marrone, D. P., Marti-Vidal, I., Matsushita, S., Matthews, L. D., Medeiros, L., Menten, K. M., Mizuno, Y., Mizuno, I., Moran, J. M.,

Moriyama, K., Moscibrodzka, M., Musoke, G., Müller, C., Nagai, H., Nagar, N. M., Nakamura, M., Narayan, R., Narayanan, G., Natarajan, I., Neri, R., Ni, C., Noutsos, A., Okino, H., Olivares, H., Ortiz-Leon, G. N., Oyama, T., Palumbo, D. C. M., Park, J., Patel, N., Pen, U.-L., Pietu, V., Plambeck, R., PopStefanija, A., Porth, O., Prather, B., Preciado-Lopez, J. A., Psaltis, D., Pu, H.-Y., Ramakrishnan, V., Rao, R., Rawlings, M. G., Raymond, A. W., Rezzolla, L., Ripperda, B., Roelofs, F., Rogers, A., Ros, E., Rose, M., Roshanineshat, A., Rottmann, H., Roy, A. L., Ruszczyk, C., Ryan, B. R., Rygl, K. L. J., Sanchez, S., Sanchez-Arguelles, D., Sasada, M., Schloerb, F. P., Schuster, K.-F., Shao, L., Shen, Z., Small, D., Sohn, B. W., SooHoo, J., Tazaki, F., Tiede, P., Tilanus, R.P.J., Titus, M., Toma, K., Torne, P., Trent, T., Traianou, E., Trippe, S., Tsuda, S., van Bemmell, I., van Langevelde, H. J., van Rossum, D. R., Wagner, J., Wardle, J., Ward-Thompson, D., Weintraub, J., Wex, N., Wharton, R., Wong, G. N., Wu, Q., Yoon, D., Young, A., Young, K., Younsi, Z., Yuan, F., Yuan, Y.-F., Zensus, J. A., Zhao, G., Zhao, S.-S., Zhu, Z., Algaba, J.-C., Allardi, A., Amestica, R., Anczarski, J., Bach, U., Baganoff, F. K., Beaudoin, C., Benson, B. A., Berthold, R., Blanchard, J. M., Blundell, R., Bustamente, S., Cappallo, R., Castillo-Dominguez, E., Chang, C.-C., Chang, S.-H., Chang, S.-C., Chen, C.-C., Chilson, R., Chuter, T.C., Rosado, R. C., Coulson, I. M., Crowley, J., Derome, M., Dexter, M., Dornbusch, S., Dudevoir, K. A., Dzib, S. A., Eckart, A., Eckert, C., Erickson, N. R., Everett, W. B., Faber, A., Farah, J. R., Fath, V., Folkers, T. W., Forbes, D. C., Freund, R., Gale, D. M., Gao, F., Geertsema, G., Graham, D. A., Greer, C. H., Grosslein, R., Gueth, F., Haggard, D., Halverson, N. W., Han, C.-C., Han, K.-C., Hao, J., Hasegawa, Y., Henning, J.W., Hernandez-Gomez, A., Herrero-Illana, R., Heyminck, S., Hirota, A., Hoge, J., Huang, Y.-D., Violette Impellizzeri, C. M., Jiang, H., John, D., Kamble, A., Keisler, R., Kimura, K., Kono, Y., Kubo, D., Kuroda, J., Lacasse, R., Laing, R. A., Leitch, E.M., Li, C.T., Lin, L. C.-C., Liu, C.-T., Liu, K.-Y., Lu, L.-M., Marson, R. G., Martin-Cocher, P. L., Massingill, K. D., Matulonis, C., McColl, M. P., McWhirter, S. R., Messias, H., Meyer-Zhao, Z., Michalik, D., Montana, A., Montgomerie, W., Mora-Klein, M., Muders, D., Nadolski, A., Navarro, S., Neilsen, J., Nguyen, C. H., Nishioka, H., Norton, T., Nowak, M.A., Nystrom, G., Ogawa, H., Oshiro, P., Oyama, T., Parsons, H., Penalver, J., Phillips, N. M., Poirier, M., Pradel, N., Primiani, R. A., Raffin, P. A., Rahlin, A. S., Reiland, G., Risacher, C., Ruiz, I., Saez-Madain, A. F., Sassella, R., Schellart, P., Shaw, P., Silva, K. M., Shiokawa, H., Smith, D. R., Snow, W., Souccar, K., Sousa, D., Sridharan, T. K., Srinivasan, R., Stahm, W., Stark, A. A., Story, K., Timmer, S. T., Vertatschitsch, L., Walther, C., Wei, T.-S., Whitehorn, N., Whitney, A. R., Woody, D. P., Wouterloot, J. G. A., Wright, M., Yamaguchi, P., Yu, C.-Y., Zeballos, M., Zhang, S., Ziurys, L., & Event Horizon Telescope Collaboration.

A&A 640, A69 (2020)

*ALMACAL VII: first interferometric number counts at 650  $\mu$ m.*

Klitsch, A., Zwaan, M. A., Smail, I., Peroux, C., Biggs, A. D., Chen, C.-C., Ivison, R. J., Popping, G., Lagos, C., Bethermin, M., Swinbank, A. M., Hamanowicz, A., & Dutta, R. MNRAS 495, 2332 (2020)

*The ALMA Survey of 70  $\mu$ m Dark High-mass Clumps in Early Stages (ASHES). II. Molecular Outflows in the Extreme Early Stages of Protocluster Formation.*

Li, S., Sanhueza, P., Zhang, Q., Nakamura, F., Lu, X., Wang, J., Liu, T., Tatematsu, K., Jackson, J. M., Silva, A., Guzman, A. E., Sakai, T., Izumi, N., Tafuya, D., Li, F., Contreras, Y., Morii, K., & Kim, K.-T. ApJ 903, 119 (2020)

*ATOMS: ALMA three-millimeter observations of massive star-forming regions - II. Compact objects in ACA observations and star formation scaling relations.*

Liu, T., Evans, N. J., Kim, K.-T., Goldsmith, P. F., Liu, S.-Y., Zhang, Q., Tatematsu, K., Wang, K., Juvela, M., Bronfman, L., Cunningham, M. R., Garay, G., Hirota, T., Lee, J.-E., Kang, S.-J., Li, D., Li, P.-S., Mardones, D., Qin, S.-L., Ristorcelli, I., Tej, A., Toth, L. V., Wu, J.-W., Wu, Y.-F., Yi, H.-. weon ., Yun, H.-S., Liu, H.-L., Peng, Y.-P., Li, J., Li, S. H., Lee, C. W., Shen, Z.-Q., Baug, T., Wang, J.-Z., Zhang, Y., Issac, N., Zhu, F.-Y., Luo, Q.-Y., Liu, X.-C., Xu, F.-W., Wang, Y., Zhang, C., Ren, Z., & Zhang, C.  
MNRAS 496, 2821 (2020)

*ATOMS: ALMA Three-millimeter Observations of Massive Star-forming regions - I. Survey description and a first look at G9.62+0.19.*

Liu, T., Evans, N. J., Kim, K.-T., Goldsmith, P. F., Liu, S.-Y., Zhang, Q., Tatematsu, K., Wang, K., Juvela, M., Bronfman, L., Cunningham, M. R., Garay, G., Hirota, T., Lee, J.-E., Kang, S.-J., Li, D., Li, P.-S., Mardones, D., Qin, S.-L., Ristorcelli, I., Tej, A., Toth, L. V., Wu, J.-W., Wu, Y.-F., Yi, H.-. weon ., Yun, H.-S., Liu, H.-L., Peng, Y.-P., Li, J., Li, S.-H., Lee, C. W., Shen, Z.-Q., Baug, T., Wang, J.-Z., Zhang, Y., Issac, N., Zhu, F.-Y., Luo, Q.-Y., Soam, A., Liu, X.-C., Xu, F.-W., Wang, Y., Zhang, C., Ren, Z., & Zhang, C.  
MNRAS 496, 2790 (2020)

*Atacama Compact Array observations of the pulsar-wind nebula of SNR 0540-69.3.*

Lundqvist, P., Lundqvist, N., Vlahakis, C., Björnsson, C.-I., Dickel, J. R., Matsuura, M., Shibanov, Y. A., Zyuzin, D. A., & Olofsson, G.  
MNRAS 496, 1834 (2020)

*Molecular outflows in local galaxies: Method comparison and a role of intermittent AGN driving.*

Lutz, D., Sturm, E., Janssen, A., Veilleux, S., Aalto, S., Cicone, C., Contursi, A., Davies, R. I., Feruglio, C., Fischer, J., Fluetsch, A., Garcia-Burillo, S., Genzel, R., Gonzalez-Alfonso, E., Gracia-Carpio, J., Herrera-Camus, R., Maiolino, R., Schrubba, A., Shimizu, T., Sternberg, A., Tacconi, L. J., & Weiß, A.  
A&A 633, A134 (2020)

*The ALMA Spectroscopic Survey in the HUDF: The Cosmic Dust and Gas Mass Densities in Galaxies up to  $z \sim 3$ .*

Magnelli, B., Boogaard, L., Decarli, R., Gonzalez-Lopez, J., Novak, M., Popping, G., Smail, I., Walter, F., Aravena, M., Assef, R. J., Bauer, F. E., Bertoldi, F., Carilli, C., Cortes, P. C., Cunha, E. da ., Daddi, E., Diaz-Santos, T., Inami, H., Ivison, R. J., Fevre, O. L., Oesch, P., Riechers, D., Rix, H.-W., Sargent, M. T., Werf, P. van . der ., Wagg, J., Weiss, A.  
ApJ 892, 66 (2020)

*The ALMA-PILS survey: inventory of complex organic molecules towards IRAS 16293-2422 A.*

Manigand, S., Jørgensen, J. K., Calcutt, H., Müller, H. S. P., Ligterink, N. F. W., Coutens, A., Drozdovskaya, M. N., van Dishoeck, E. F., & Wampfler, S. F.  
A&A 635, A48 (2020)

*The Formation Height of Millimeter-wavelength Emission in the Solar Chromosphere.*

Martinez-Sykora, J., De Pontieu, B., de la Cruz Rodriguez, J., & Chintzoglou, G.  
ApJ 891, L8 (2020)

*ALMA full polarization observations of PKS 1830-211 during its record-breaking flare of 2019.*

Marti-Vidal, I., Muller, S., Mus, A., Marscher, A., Agudo, I., & Gomez, J. L.  
A&A 638, L13 (2020)

*VALES VI: ISM enrichment in star-forming galaxies up to  $z \approx 0.2$  using  $^{12}\text{CO}(1-0)$ ,  $^{13}\text{CO}(1-0)$ , and  $\text{C}^{18}\text{O}(1-0)$  line luminosity ratios.*

Mendez-Hernandez, H., Ibar, E., Knudsen, K. K., Cassata, P., Aravena, M.,  
Michalowski, M. J., Zhang, Z.-Y., Lara-Lopez, M. A., Ivison, R. J., van der Werf, P.,  
Villanueva, V., Herrera-Camus, R., & Hughes, T. M.  
MNRAS 497, 2771 (2020)

*All good things come in threes: the third image of the lensed quasar PKS 1830-211.*

Muller, S., Jaswanth, S., Horellou, C., & Marti-Vidal, I.  
A&A 641, L2 (2020)

*Detection of deuterated molecules, but not of lithium hydride, in the  $z = 0.89$  absorber toward PKS 1830-211.*

Muller, S., Roueff, E., Black, J. H., Gerin, M., Guelin, M., Menten, K. M., Henkel, C.,  
Aalto, S., Combes, F., Martin, S., & Marti-Vidal, I.  
A&A 637, A7 (2020)

*Spirals inside the millimeter cavity of transition disk SR 21.*

Muro-Arena, G. A., Ginski, C., Dominik, C., Benisty, M., Pinilla, P., Bohn, A. J.,  
Moldenhauer, T., Kley, W., Harsono, D., Henning, T., van Holstein, R. G., Janson, M.,  
Keppler, M., Menard, F., Perez, L. M., Stolker, T., Tazzari, M., Villenave, M., Zurlo, A.,  
Petit, C., Rigal, F., Möller-Nilsson, O., Llored, M., Moulin, T., & Rabou, P.  
A&A 636, L4 (2020)

*ALMA Observations of Quasar Host Galaxies at  $z = 4.8$ .*

Nguyen, N. H., Lira, P., Trakhtenbrot, B., Netzer, H., Cicone, C., Maiolino, R., &  
Shemmer, O.  
ApJ 895, 74 (2020)

*ALMA and VLA reveal the lukewarm chromospheres of the nearby red supergiants Antares and Betelgeuse.*

O'Gorman, E., Harper, G. M., Ohnaka, K., Feeney-Johansson, A., Wilkneit-Braun, K.,  
Brown, A., Guinan, E. F., Lim, J., Richards, A. M. S., Ryde, N., & Vlemmings, W. H. T.  
A&A 638, A65 (2020)

*An ALMA Survey of  $\text{H}_2\text{CO}$  in Protoplanetary Disks.*

Pegues, J., Öberg, K. I., Bergner, J. B., Loomis, R. A., Qi, C., Le Gal, R., Cleeves, L. I.,  
Guzman, V. V., Huang, J., Jørgensen, J. K., Andrews, S. M., Blake, G. A., Carpenter, J. M.,  
Schwarz, K. R., Williams, J. P., & Wilner, D. J.  
ApJ 890, 142 (2020)

*Cold molecular gas and free-free emission from hot, dust-obscured galaxies at  $z \sim 3$ .*

Penney, J. I., Blain, A. W., Assef, R. J., Diaz-Santos, T., Gonzalez-Lopez, J., Tsai, C.-W., Aravena, M., Eisenhardt, P. R. M., Jones, S. F., Jun, H. D., Kim, M., Stern, D., & Wu, J. MNRAS 496, 1565 (2020)

*Long Baseline Observations of the HD 100546 Protoplanetary Disk with ALMA.*

Perez, S., Casassus, S., Hales, A., Marino, S., Cheetham, A., Zurlo, A., Cieza, L., Dong, R., Alarcon, F., Benitez-Llambay, P., Fomalont, E., & Avenhaus, H. ApJ 889, L24 (2020)

*DEATHSTAR: Nearby AGB stars with the Atacama Compact Array. I. CO envelope sizes and asymmetries: A new hope for accurate mass-loss-rate estimates.*

Ramstedt, S., Vlemmings, W. H. T., Doan, L., Danilovich, T., Lindqvist, M., Saberi, M., Olofsson, H., De Beck, E., Groenewegen, M. A. T., Höfner, S., Kastner, J. H., Kerschbaum, F., Khouri, T., Maercker, M., Montez, R., Quintana-Lacaci, G., Sahai, R., Tafoya, D., & Zijlstra, A. A&A 640, A133 (2020)

*Discovery of a complex spiral-shell structure around the oxygen-rich AGB star GX Monocerotis.*

Randall, S. K., Trejo, A., Humphreys, E. M. L., Kim, H., Wittkowski, M., Boboltz, D., & Ramstedt, S. A&A 636, A123 (2020)

*The Complete Redshift Distribution of Dusty Star-forming Galaxies from the SPT-SZ Survey.*

Reuter, C., Vieira, J. D., Spilker, J. S., Weiss, A., Aravena, M., Archipley, M., Bethermin, M., Chapman, S. C., De Breuck, C., Dong, C., Everett, W. B., Fu, J., Greve, T. R., Hayward, C. C., Hill, R., Hezaveh, Y., Jarugula, S., Litke, K., Malkan, M., Marrone, D. P., Narayanan, D., Phadke, K. A., Stark, A. A., & Strandet, M. L. ApJ 902, 78 (2020)

*Characterizing the radio continuum nature of sources in the massive star-forming region W75N (B).*

Rodriguez-Kamenetzky, A., Carrasco-Gonzalez, C., Torrelles, J. M., Vlemmings, W. H. T., Rodriguez, L. F., Surcis, G., Gomez, J. F., Canto, J., Goddi, C., Kim, J. S., Kim, S.-W., Anez-Lopez, N., Curiel, S., & van Langevelde, H. J. MNRAS 496, 3128 (2020)

*SYMBA: An end-to-end VLBI synthetic data generation pipeline. Simulating Event Horizon Telescope observations of M 87.*

Roelofs, F., Janssen, M., Natarajan, I., Deane, R., Davelaar, J., Olivares, H., Porth, O., Paine, S. N., Bouman, K. L., Tilanus, R. P. J., van Bemmell, I. M., Falcke, H., Akiyama, K., Alberdi, A., Alef, W., Asada, K., Azulay, R., Bacsko, A., Ball, D., Balokovic, M., Barrett, J., Bintley, D., Blackburn, L., Boland, W., Bower, G. C., Bremer, M., Brinkerink, C. D., Brissenden, R., Britzen, S., Broderick, A. E., Brogiere, D., Bronzwaer, T., Byun, D., Carlstrom, J. E., Chael, A., Chan, C., Chatterjee, S., Chatterjee, K., Chen, M., Chen, Y., Cho, I., Christian, P., Conway, J. E., Cordes, J. M., Crew, G. B., Cui, Y., De Laurentis, M., Dempsey, J., Desvignes, G., Dexter, J., Doleman, S. S., Eatough, R. P., Fish, V. L., Fomalont, E., Fraga-Encinas, R., Friberg, P., Fromm, C. M., Gomez, J. L., Galison, P., Gammie, C. F., Garcia, R., Gentaz, O., Georgiev, B., Goddi, C., Gold, R., Gu, M.,

Gurwell, M., Hada, K., Hecht, M. H., Hesper, R., Ho, L. C., Ho, P., Honma, M., Huang, C. L., Huang, L., Hughes, D. H., Ikeda, S., Inoue, M., Issaoun, S., James, D. J., Jannuzi, B. T., Jeter, B., Jiang, W., Johnson, M. D., Jorstad, S., Jung, T., Karami, M., Karuppusamy, R., Kawashima, T., Keating, G. K., Kettenis, M., Kim, J., Kim, J., Kim, J., Kino, M., Koay, J. Y., Koch, P. M., Koyama, S., Kramer, M., Kramer, C., Krichbaum, T. P., Kuo, C., Lauer, T. R., Lee, S., Li, Y., Li, Z., Lindqvist, M., Lico, R., Liu, K., Liuzzo, E., Lo, W., Lobanov, A. P., Loinard, L., Lonsdale, C., Lu, R., MacDonald, N. R., Mao, J., Markoff, S., Marrone, D. P., Marscher, A. P., Marti-Vidal, I., Matsushita, S., Matthews, L. D., Medeiros, L., Menten, K. M., Mizuno, Y., Mizuno, I., Moran, J. M., Moriyama, K., Moscibrodzka, M., Müller, C., Nagai, H., Nagar, N. M., Nakamura, M., Narayan, R., Narayanan, G., Neri, R., Ni, C., Noutsos, A., Okino, H., Olivares, H., Ortiz-Leon, G. N., Oyama, T., Özel, F., Palumbo, D. C. M., Patel, N., Pen, U., Pesce, D. W., Pietu, V., Plambeck, R., PopStefanija, A., Prather, B., Preciado-Lopez, J. A., Psaltis, D., Pu, H., Ramakrishnan, V., Rao, R., Rawlings, M. G., Raymond, A. W., Rezzolla, L., Ripperda, B., Rogers, A., Ros, E., Rose, M., Roshanineshat, A., Rottmann, H., Roy, A. L., Ruszczyk, C., Ryan, B. R., Rygl, K. L. J., Sanchez, S., Sanchez-Arguelles, D., Sasada, M., Savolainen, T., Schloerb, F. P., Schuster, K., Shao, L., Shen, Z., Small, D., Won Sohn, B., SooHoo, J., Tazaki, F., Tiede, P., Titus, M., Toma, K., Torne, P., Traianou, E., Trent, T., Trippe, S., Tsuda, S., van Langevelde, H. J., van Rossum, D. R., Wagner, J., Wardle, J., Weintroub, J., Wex, N., Wharton, R., Wielgus, M., Wong, G. N., Wu, Q., Young, A., Young, K., Younsi, Z., Yuan, F., Yuan, Y., Zensus, J. A., Zhao, G., Zhao, S., & Zhu, Z.  
A&A 636, A5 (2020)

*Rapid compact jet quenching in the Galactic black hole candidate X-ray binary MAXI J1535-571.*

Russell, T. D., Lucchini, M., Tetarenko, A. J., Miller-Jones, J. C. A., Sivakoff, G. R., Krauß, F., Mulaudzi, W., Baglio, M. C., Russell, D. M., Altamirano, D., Ceccobello, C., Corbel, S., Degenaar, N., van den Eijnden, J., Fender, R., Heinz, S., Koljonen, K. I. I., Maitra, D., Markoff, S., Migliari, S., Parikh, A. S., Plotkin, R. M., Rupen, M., Sarazin, C., Soria, R., & Wijnands, R.  
MNRAS 498, 5772 (2020)

*ALMA observations of CS in NGC 1068: chemistry and excitation.*

Scourfield, M., Viti, S., Garcia-Burillo, S., Saintonge, A., Combes, F., Fuente, A., Henkel, C., Alonso-Herrero, A., Harada, N., Takano, S., Nakajima, T., Martin, S., Krips, M., van der Werf, P. P., Aalto, S., Usero, A., & Kohno, K.  
MNRAS 496, 5308 (2020)

*Constraining the Chemical Signatures and the Outburst Mechanism of the Class 0 Protostar HOPS 383.*

Sharma, R., Tobin, J. J., Sheehan, P. D., Megeath, S. T., Fischer, W. J., Jørgensen, J. K., Safron, E. J., & Nagy, Z.  
ApJ 904, 78 (2020)

*Ubiquitous Molecular Outflows in  $z > 4$  Massive, Dusty Galaxies. II. Momentum-driven Winds Powered by Star Formation in the Early Universe.*

Spilker, J. S., Aravena, M., Phadke, K. A., Bethermin, M., Chapman, S. C., Dong, C., Gonzalez, A. H., Hayward, C. C., Hezaveh, Y. D., Litke, K. C., Malkan, M. A., Marrone, D. P., Narayanan, D., Reuter, C., Vieira, J. D., & Weiß, A.  
ApJ 905, 86 (2020)

*Ubiquitous Molecular Outflows in  $z > 4$  Massive, Dusty Galaxies. I. Sample Overview and Clumpy Structure in Molecular Outflows on 500 pc Scales.*

Spilker, J. S., Phadke, K. A., Aravena, M., Bethermin, M., Chapman, S. C., Dong, C., Gonzalez, A. H., Hayward, C. C., Hezaveh, Y. D., Jarugula, S., Litke, K. C., Malkan, M. A., Marrone, D. P., Narayanan, D., Reuter, C., Vieira, J. D., & Weiss, A.  
ApJ 905, 85 (2020)

*Shaping the Envelope of the Asymptotic Giant Branch Star W43A with a Collimated Fast Jet.*

Tafoya, D., Imai, H., Gomez, J. F., Nakashima, J.-ichi., Orosz, G., & Yung, B. H. K.  
ApJ 890, L14 (2020)

*Salt, Hot Water, and Silicon Compounds Tracing Massive Twin Disks.*

Tanaka, K. E. I., Zhang, Y., Hirota, T., Sakai, N., Motogi, K., Tomida, K., Tan, J. C., Rosero, V., Higuchi, A. E., Ohashi, S., Liu, M., & Sugiyama, K.  
ApJ 900, L2 (2020)

*ALMA ACA and Nobeyama Observations of Two Orion Cores in Deuterated Molecular Lines.*

Tatematsu, K., Liu, T., Kim, G., Yi, H.-W., Lee, J.-E., Hirano, N., Liu, S.-Y., Ohashi, S., Sanhueza, P., Di Francesco, J., Evans, N. J., Fuller, G. A., Kandori, R., Choi, M., Kang, M., Feng, S., Hirota, T., Sakai, T., Lu, X., Lu'o'ng, Q. N., Thompson, M. A., Wu, Y., Li, D., Kim, K.-T., Wang, K., Ristorcelli, I., Juvela, M., & Toth, L. V.  
ApJ 895, 119 (2020)

*The VLA/ALMA Nascent Disk and Multiplicity (VANDAM) Survey of Orion Protostars.*

*II. A Statistical Characterization of Class 0 and Class I Protostellar Disks.*

Tobin, J. J., Sheehan, P. D., Megeath, S. T., Diaz-Rodriguez, A. K., Offner, S. S. R., Murillo, N. M., van 't Hoff, M. L. R., van Dishoeck, E. F., Osorio, M., Anglada, G., Furlan, E., Stutz, A. M., Reynolds, N., Karnath, N., Fischer, W. J., Persson, M., Looney, L. W., Li, Z.-Y., Stephens, I., Chandler, C. J., Cox, E., Dunham, M. M., Tychoniec, L., Kama, M., Kratter, K., Kounkel, M., Mazur, B., Maud, L., Patel, L., Perez, L., Sadavoy, S. I., Segura-Cox, D., Sharma, R., Stephenson, B., Watson, D. M., & Wyrowski, F.  
ApJ 890, 130 (2020)

*The Molecular Gas in the NGC 6240 Merging Galaxy System at the Highest Spatial Resolution.*

Treister, E., Messias, H., Privon, G. C., Nagar, N., Medling, A. M., U, V., Bauer, F. E., Cicone, C., Munoz, L. B., Evans, A. S., Muller-Sanchez, F., Comerford, J. M., Armus, L., Chang, C.-S., Koss, M., Venturi, G., Schawinski, K., Casey, C., Urry, C. M., Sanders, D. B., Scoville, N., & Sheth, K.  
ApJ 890, 149 (2020)

*CO emission in distant galaxies on and above the main sequence.*

Valentino, F., Daddi, E., Puglisi, A., Magdis, G. E., Liu, D., Kokorev, V., Cortzen, I., Madden, S., Aravena, M., Gomez-Guijarro, C., Lee, M.-Y., Le Floc'h, E., Gao, Y., Gobat, R., Bournaud, F., Dannerbauer, H., Jin, S., Dickinson, M. E., Kartaltepe, J., & Sanders, D.  
A&A 641, A155 (2020)

*The Properties of the Interstellar Medium of Galaxies across Time as Traced by the Neutral Atomic Carbon [C I].*

Valentino, F., Magdis, G. E., Daddi, E., Liu, D., Aravena, M., Bournaud, F., Cortzen, I., Gao, Y., Jin, S., Juneau, S., Kartaltepe, J. S., Kokorev, V., Lee, M.-Y., Madden, S. C., Narayanan, D., Popping, G., & Puglisi, A.  
ApJ 890, 24 (2020)

*Temperature Structures of Embedded Disks: Young Disks in Taurus Are Warm.*

van't Hoff, M. L. R., Harsono, D., Tobin, J. J., Bosman, A. D., van Dishoeck, E. F., Jørgensen, J. K., Miotello, A., Murillo, N. M., & Walsh, C.  
ApJ 901, 166 (2020)

*Temperature profiles of young disk-like structures. The case of IRAS 16293A.*

van 't Hoff, M. L. R., van Dishoeck, E. F., Jørgensen, J. K., & Calcutt, H.  
A&A 633, A7 (2020)

*The Evolution of the Baryons Associated with Galaxies Averaged over Cosmic Time and Space.*

Walter, F., Carilli, C., Neeleman, M., Decarli, R., Popping, G., Somerville, R. S., Aravena, M., Bertoldi, F., Boogaard, L., Cox, P., da Cunha, E., Magnelli, B., Obreschkow, D., Riechers, D., Rix, H.-W., Smail, I., Weiss, A., Assef, R. J., Bauer, F., Bouwens, R., Contini, T., Cortes, P. C., Daddi, E., Diaz-Santos, T., Gonzalez-Lopez, J., Hennawi, J., Hodge, J. A., Inami, H., Ivison, R., Oesch, P., Sargent, M., van der Werf, P., Wagg, J., & Yung, L. Y. A.  
ApJ 902, 111 (2020)

*The Sun at millimeter wavelengths. I. Introduction to ALMA Band 3 observations.*

Wedemeyer, S., Szydlarski, M., Jafarzadeh, S., Eklund, H., Guevara Gomez, J. C., Bastian, T., Fleck, B., de la Cruz Rodriguez, J., Rodger, A., & Carlsson, M.  
A&A 635, A71 (2020)

*Monitoring the Morphology of M87\* in 2009-2017 with the Event Horizon Telescope.*

Wielgus, M., Akiyama, K., Blackburn, L., Chan, C.-kwan, Dexter, J., Doleman, S. S., Fish, V. L., Issaoun, S., Johnson, M. D., Krichbaum, T. P., Lu, R.-S., Pesce, D. W., Wong, G. N., Bower, G. C., Broderick, A. E., Chael, A., Chatterjee, K., Gammie, C. F., Georgiev, B., Hada, K., Loinard, L., Markoff, S., Marrone, D. P., Plambeck, R., Weintraub, J., Dexter, M., MacMahon, D. H. E., Wright, M., Alberdi, A., Alef, W., Asada, K., Azulay, R., Baczko, A.-K., Ball, D., Balokovic, M., Barausse, E., Barrett, J., Bintley, D., Boland, W., Bouman, K. L., Bremer, M., Brinkerink, C. D., Brissenden, R., Britzen, S., Brogiere, D., Bronzwaer, T., Byun, D.-Y., Carlstrom, J. E., Chatterjee, S., Chen, M.-T., Chen, Y., Cho, I., Christian, P., Conway, J. E., Cordes, J. M., Crew, G. B., Cui, Y., Davelaar, J., Laurentis, M. D., Deane, R., Dempsey, J., Desvignes, G., Dzib, S. A., Eatough, R. P., Falcke, H., Fomalont, E., Fraga-Encinas, R., Friberg, P., Fromm, C. M., Galison, P., Garcia, R., Gentaz, O., Goddi, C., Gold, R., Gomez, J. L., Gomez-Ruiz, A. I., Gu, M., Gurwell, M., Hecht, M. H., Hesper, R., Ho, L. C., Ho, P., Honma, M., Huang, C. W. L., Huang, L., Hughes, D. H., Inoue, M., James, D. J., Jannuzi, B. T., Janssen, M., Jeter, B., Jiang, W., Jimenez-Rosales, A., Jorstad, S., Jung, T., Karami, M., Karuppusamy, R., Kawashima, T., Keating, G. K., Kettenis, M., Kim, J.-Y., Kim, J., Kim, J., Kino, M., Koay, J. Y., Koch, P. M., Koyama, S., Kramer, M., Kramer, C., Kuo, C.-Y., Lauer, T. R., Lee, S.-S., Li, Y.-R., Li, Z., Lindqvist, M., Lico, R., Liu, K., Liuzzo, E.,

Lo, W. P., Lobanov, A. P., Lonsdale, C., MacDonald, N. R., Mao, J., Marchili, N., Marscher, A. P., Marti-Vidal, I., Matsushita, S., Matthews, L. D., Medeiros, L., Menten, K. M., Mizuno, Y., Mizuno, I., Moran, J. M., Moriyama, K., Moscibrodzka, M., Müller, C., Musoke, G., Nagai, H., Nagar, N. M., Nakamura, M., Narayan, R., Narayanan, G., Natarajan, I., Nathanail, A., Neri, R., Ni, C., Noutsos, A., Okino, H., Olivares, H., Ortiz-Leon, G. N., Oyama, T., Özel, F., Palumbo, D. C. M., Park, J., Patel, N., Pen, U.-L., Pietu, V., PopStefanija, A., Porth, O., Prather, B., Preciado-Lopez, J. A., Psaltis, D., Pu, H.-Y., Ramakrishnan, V., Rao, R., Rawlings, M. G., Raymond, A. W., Rezzolla, L., Ripperda, B., Roelofs, F., Rogers, A., Ros, E., Rose, M., Roshanineshat, A., Rottmann, H., Roy, A. L., Ruszczyk, C., Ryan, B. R., Rygl, K. L. J., Sanchez, S., Sanchez-Arguelles, D., Sasada, M., Savolainen, T., Schloerb, F. P., Schuster, K. F., Shao, L., Shen, Z., Small, D., Sohn, B. W., SooHoo, J., Tazaki, F., Tiede, P., Tilanus, R. P. J., Titus, M., Toma, K., Torne, P., Trent, T., Traianou, E., Trippe, S., Tsuda, S., Bemmell, I. van ., van Langevelde, H. J., van Rossum, D. R., Wagner, J., Wardle, J., Ward-Thompson, D., Wex, N., Wharton, R., Wu, Q., Yoon, D., Young, A., Young, K., Younsi, Z., Yuan, F., Yuan, Y.-F., Zensus, J. A., Zhao, G., Zhao, S.-S., & Zhu, Z.  
ApJ 901, 67 (2020)

*High-resolution Near-infrared Polarimetry and Submillimeter Imaging of FS Tau A: Possible Streamers in Misaligned Circumbinary Disk System.*

Yang, Y., Akiyama, E., Currie, T., Dong, R., Hashimoto, J., Hayashi, S. S., Grady, C. A., Janson, M., Jovanovic, N., Uyama, T., Nakagawa, T., Kudo, T., Kusakabe, N., Kuzuhara, M., Abe, L., Brandner, W., Brandt, T. D., Bonnefoy, M., Carson, J. C., Chilcote, J., Rich, E. A., Feldt, M., Goto, M., Groff, T. D., Guyon, O., Hayano, Y., Hayashi, M., Henning, T., Hodapp, K. W., Ishii, M., Iye, M., Kandori, R., Kasdin, J., Knapp, G. R., Kwon, J., Lozi, J., Martinache, F., Matsuo, T., Mayama, S., Mcelwain, M. W., Miyama, S., Morino, J.-I., Moro-Martin, A., Nishimura, T., Pyo, T.-S., Serabyn, E., Suto, H., Suzuki, R., Takami, M., Takato, N., Terada, H., Thalmann, C., Turner, E. L., Watanabe, M., Wisniewski, J. P., Yamada, T., Takami, H., Usuda, T., & Tamura, M.  
ApJ 889, 140 (2020)

*Constraining the Infalling Envelope Models of Embedded Protostars: BHR 71 and Its Hot Corino.*

Yang, Y.-L., Evans, N. J., Smith, A., Lee, J.-E., Tobin, J. J., Terebey, S., Calcutt, H., Jørgensen, J. K., Green, J. D., & Bourke, T. L.  
ApJ 891, 61 (2020)

*GOODS-ALMA: Optically dark ALMA galaxies shed light on a cluster in formation at  $z = 3.5$ .*

Zhou, L., Elbaz, D., Franco, M., Magnelli, B., Schreiber, C., Wang, T., Ciesla, L., Daddi, E., Dickinson, M., Nagar, N., Magdis, G., Alexander, D. M., Bethermin, M., Demarco, R., Mullaney, J., Bournaud, F., Ferguson, H., Finkelstein, S. L., Giavalisco, M., Inami, H., Iono, D., Juneau, S., Lagache, G., Messias, H., Motohara, K., Okumura, K., Pannella, M., Papovich, C., Pope, A., Rujopakarn, W., Shi, Y., Shu, X., & Silverman, J.  
A&A 642, A155 (2020)

## Astronomy: VLBI

Publications resulting from observations with EVN and GMVA, or using JIVE.

*The case against gravitational millilensing in the multiply-imaged quasar B1152+199.*

Asadi, S., Zackrisson, E., Varenius, E., Freeland, E., Conway, J., and Wiik, K.  
MNRAS 492, 742 (2020)

*A radio parallax to the black hole X-ray binary MAXI J1820+070.*

Atri, P., Miller-Jones, J.C.A., Bahramian, A., Plotkin, R.M., Deller, A.T., Jonker, P.G., Maccarone, T.J., Sivakoff, G.R., Soria, R., Altamirano, D., Belloni, T., Fender, R., Koerding, E., Maitra, D., Markoff, S., Migliari, S., Russell, D., Russell, T., Sarazin, C.L., Tetarenko, A.J., and Tudose, V.  
MNRAS 493, L81 (2020)

*The nature of the methanol maser ring G23.657-00.127. II. Expansion of the maser structure.*

Bartkiewicz, A., Sanna, A., Szymczak, M., Moscadelli, L., van Langevelde, H.J., Wolak, P.  
A&A 637, A15 (2020)

*Active galactic nuclei imaging programs of the RadioAstron mission.*

Bruni, G., Savolainen, T., Gómez, J.L., Lobanov, A.P., Kovalev, Y.Y., RadioAstron AGN Imaging Team, and KSP Team.  
Adv. Space Res. 65, 712 (2020)

*VLBI observations of the G25.65+1.05 water maser superburst.*

Burns, R.A., Orosz, G., Bayandina, O., Surcis, G., Olech, M., MacLeod, G., Volvach, A., Rudnitskii, G., Hirota, T., Immer, K., Blanchard, J., Marcote, B., van Langevelde, H.J., Chibueze, J.O., Sugiyama, K., Kim, K.-T., Val`ts, I., Shakhvorostova, N., Kramer, B., Baan, W.A., Brogan, C., Hunter, T., Kurtz, S., Sobolev, A.M., Brand, J., and Volvach, L.  
MNRAS 491, 4069 (2020)

*Searching for obscured AGN in  $z \sim 2$  submillimetre galaxies.*

Chen, H., Garrett, M.A., Chi, S., Thomson, A.P., Barthel, P.D., Alexander, D.M., Muxlow, T.W.B., Beswick, R.J., Radcliffe, J.F., Wrigley, N.H., Guidetti, D., Bondi, M., Prandoni, I., Smail, I., McHardy, I., and Argo, M.K.  
A&A 638, A113 (2020)

*Periodic activity from a fast radio burst source.*

Chime/Frb Collaboration, Amiri, M., Andersen, B.C., Bandura, K.M., Bhardwaj, M., Boyle, P.J., Brar, C., Chawla, P., Chen, T., Cliche, J.F., Cubranic, D., Deng, M., Denman, N.T., Dobbs, M., Dong, F.Q., Fandino, M., Fonseca, E., Gaensler, B.M., Giri, U., Good, D.C., Halpern, M., Hessels, J.W.T., Hill, A.S., Höfer, C., Josephy, A., Kania, J.W., Karuppusamy, R., Kaspi, V.M., Keimpema, A., Kirsten, F., Landecker, T.L., Lang, D.A., Leung, C., Li, D.Z., Lin, H.-H., Marcote, B., Masui, K.W., McKinven, R., Mena-Parra, J., Merryfield, M., Michilli, D., Milutinovic, N., Mirhosseini, A., Naidu, A., Newburgh, L.B., Ng, C., Nimmo, K., Paragi, Z., Patel, C., Pen, U.-L., Pinsonneault-Marotte, T., Pleunis, Z., Rafiei-Ravandi, M., Rahman, M., Ransom, S.M., Renard, A., Sanghavi, P., Scholz, P., Shaw, J.R., Shin, K., Siegel, S.R., Singh, S., Smegal, R.J., Smith, K.M., Stairs, I.H., Tendulkar, S.P., Tretyakov, I., Vanderlinde, K., Wang, H., Wang, X., Wulf, D., Yadav, P., and Zwaniga, A.V.

Nature 582, 351 (2020)

*An ALMA view of SO and SO<sub>2</sub> around oxygen-rich AGB stars.*

Danilovich, T., Richards, A.M.S., Decin, L., Van de Sande, M., and Gottlieb, C.A.  
MNRAS 494, 1323 (2020)

*The Hyperluminous, Dust-obscured Quasar W2246-0526 at  $z = 4.6$ : Detection of Parsec-scale Radio Activity.*

Fan, L., Chen, W., An, T., Xie, F.-G., Han, Y., Knudsen, K.K., and Yang, J.  
ApJ 905, L32 (2020)

*Very long baseline interferometry imaging of the advancing ejecta in the first gamma-ray nova V407 Cygni.*

Giroletti, M., Munari, U., Körding, E., Mioduszewski, A., Sokoloski, J., Cheung, C.C., Corbel, S., Schinzel, F., Sokolovsky, K., and O'Brien, T.J.  
A&A 638, A130 (2020)

*Quasi-simultaneous radio and X-ray observations of Aql X-1 : probing low luminosities.*

Gusinskaia, N.V., Hessels, J.W.T., Degenaar, N., Deller, A.T., Miller-Jones, J.C.A., Archibald, A.M., Heinke, C.O., Moldón, J., Patruno, A., Tomsick, J.A., and Wijnands, R.  
MNRAS 492, 2858 (2020)

*Event Horizon Telescope imaging of the archetypal blazar 3C 279 at an extreme 20 microarcsecond resolution.*

Kim, J.-Y., Krichbaum, T.P., Broderick, A.E., Wielgus, M., Blackburn, L., Gómez, J.L., Johnson, M.D., Bouman, K.L., Chael, A., Akiyama, K., Jorstad, S., Marscher, A.P., Issaoun, S., Janssen, M., Chan, C.-. kwan ., Savolainen, T., Pesce, D.W., Özel, F., Alberdi, A., Alef, W., Asada, K., Azulay, R., Baczkó, A.-K., Ball, D., Baloković, M., Barrett, J., Bintley, D., Boland, W., Bower, G.C., Bremer, M., Brinkerink, C.D., Brissenden, R., Britzen, S., Brogiere, D., Bronzwaer, T., Byun, D.-Y., Carlstrom, J.E., Chatterjee, S., Chatterjee, K., Chen, M.-T., Chen, Y., Cho, I., Christian, P., Conway, J.E., Cordes, J.M., Crew, G.B., Cui, Y., Davelaar, J., De Laurentis, M., Deane, R., Dempsey, J., Desvignes, G., Dexter, J., Doeleman, S.S., Eatough, R.P., Falcke, H., Fish, V.L., Fomalont, E., Fraga-Encinas, R., Friberg, P., Fromm, C.M., Galison, P., Gammie, C.F., García, R., Gentaz, O., Georgiev, B., Goddi, C., Gold, R., Gómez-Ruiz, A.I., Gu, M., Gurwell, M., Hada, K., Hecht, M.H., Hesper, R., Ho, L.C., Ho, P., Honma, M., Huang, C.-W.L., Huang, L., Hughes, D.H., Ikeda, S., Inoue, M., James, D.J., Jannuzi, B.T., Jeter, B., Jiang, W., Jimenez-

Rosales, A., Jung, T., Karami, M., Karuppusamy, R., Kawashima, T., Keating, G.K., Kettenis, M., Kim, J., Kim, J., Kino, M., Koay, J.Y., Koch, P.M., Koyama, S., Kramer, M., Kramer, C., Kuo, C.-Y., Lauer, T.R., Lee, S.-S., Li, Y.R., Li, Z., Lindqvist, M., Lico, R., Liu, K., Liuzzo, E., Lo, W.-P., Lobanov, A.P., Loinard, L., Lonsdale, C., Lu, R.-S., MacDonald, N.R., Mao, J., Markoff, S., Marrone, D.P., Martí-Vidal, I., Matsushita, S., Matthews, L.D., Medeiros, L., Menten, K.M., Mizuno, Y., Mizuno, I., Moran, J.M., Moriyama, K., Moscibrodzka, M., Musoke, G., Müller, C., Nagai, H., Nagar, N.M., Nakamura, M., Narayan, R., Narayanan, G., Natarajan, I., Neri, R., Ni, C., Noutsos, A., Okino, H., Olivares, H., Ortiz-León, G.N., Oyama, T., Palumbo, D.C.M., Park, J., Patel, N., Pen, U.-L., Piétu, V., Plambeck, R., PopStefanija, A., Porth, O., Prather, B., Preciado-López, J.A., Psaltis, D., Pu, H.-Y., Ramakrishnan, V., Rao, R., Rawlings, M.G., Raymond, A.W., Rezzolla, L., Ripperda, B., Roelofs, F., Rogers, A., Ros, E., Rose, M., Roshanineshat, A., Rottmann, H., Roy, A.L., Ruszczyk, C., Ryan, B.R., Rygl, K.L.J., Sánchez, S., Sánchez-Arguelles, D., Sasada, M., Schloerb, F.P., Schuster, K.-F., Shao, L., Shen, Z., Small, D., Sohn, B.W., SooHoo, J., Tazaki, F., Tiede, P., Tilanus, R.P.J., Titus, M., Toma, K., Torne, P., Trent, T., Traianou, E., Trippe, S., Tsuda, S., van Bemmell, I., van Langevelde, H.J., van Rossum, D.R., Wagner, J., Wardle, J., Ward-Thompson, D., Weintraub, J., Wex, N., Wharton, R., Wong, G.N., Wu, Q., Yoon, D., Young, A., Young, K., Younsi, Z., Yuan, F., Yuan, Y.-F., Zensus, J.A., Zhao, G., Zhao, S.-S., Zhu, Z., Algaba, J.-C., Allardi, A., Amestica, R., Anczarski, J., Bach, U., Baganoff, F.K., Beaudoin, C., Benson, B.A., Berthold, R., Blanchard, J.M., Blundell, R., Bustamente, S., Cappallo, R., Castillo-Domínguez, E., Chang, C.-C., Chang, S.-H., Chang, S.-C., Chen, C.-C., Chilson, R., Chuter, T.C., Rosado, R.C., Coulson, I.M., Crowley, J., Derome, M., Dexter, M., Dornbusch, S., Dudevoir, K.A., Dzib, S.A., Eckart, A., Eckert, C., Erickson, N.R., Everett, W.B., Faber, A., Farah, J.R., Fath, V., Folkers, T.W., Forbes, D.C., Freund, R., Gale, D.M., Gao, F., Geertsema, G., Graham, D.A., Greer, C.H., Grosslein, R., Gueth, F., Haggard, D., Halverson, N.W., Han, C.-C., Han, K.-C., Hao, J., Hasegawa, Y., Henning, J.W., Hernández-Gómez, A., Herrero-Illana, R., Heyminck, S., Hirota, A., Hoge, J., Huang, Y.-D., Violette Impellizzeri, C.M., Jiang, H., John, D., Kamble, A., Keisler, R., Kimura, K., Kono, Y., Kubo, D., Kuroda, J., Lacasse, R., Laing, R.A., Leitch, E.M., Li, C.-T., Lin, L.C.-C., Liu, C.-T., Liu, K.-Y., Lu, L.-M., Marson, R.G., Martin-Cocher, P.L., Massingill, K.D., Matulonis, C., McColl, M.P., McWhirter, S.R., Messias, H., Meyer-Zhao, Z., Michalik, D., Montaña, A., Montgomerie, W., Mora-Klein, M., Muders, D., Nadolski, A., Navarro, S., Neilsen, J., Nguyen, C.H., Nishioka, H., Norton, T., Nowak, M.A., Nystrom, G., Ogawa, H., Oshiro, P., Oyama, T., Parsons, H., Peñalver, J., Phillips, N.M., Poirier, M., Pradel, N., Primiani, R.A., Raffin, P.A., Rahlin, A.S., Reiland, G., Risacher, C., Ruiz, I., Sáez-Madaín, A.F., Sassella, R., Schellart, P., Shaw, P., Silva, K.M., Shiokawa, H., Smith, D.R., Snow, W., Souccar, K., Sousa, D., Sridharan, T.K., Srinivasan, R., Stahm, W., Stark, A.A., Story, K., Timmer, S.T., Vertatschitsch, L., Walther, C., Wei, T.-S., Whitehorn, N., Whitney, A.R., Woody, D.P., Wouterloot, J.G.A., Wright, M., Yamaguchi, P., Yu, C.-Y., Zeballos, M., Zhang, S., Ziurys, L., and Event Horizon Telescope Collaboration. *A&A* 640, A69 (2020)

*Detection of two bright radio bursts from magnetar SGR 1935 + 2154.*

Kirsten, F., Snelders, M.P., Jenkins, M., Nimmo, K., van den Eijnden, J., Hessels, J.W.T., Gawroński, M.P., and Yang, J. *Nature Astronomy* (2020)

*AT 2017gbl: a dust obscured TDE candidate in a luminous infrared galaxy.*

Kool, E.C., Reynolds, T.M., Mattila, S., Kankare, E., Pérez-Torres, M.A., Efstathiou, A., Ryder, S., Romero-Cañizales, C., Lu, W., Heikkilä, T., Anderson, G.E., Berton, M., Bright, J., Cannizzaro, G., Eappachen, D., Fraser, M., Gromadzki, M., Jonker, P.G., Kuncarayakti, H., Lundqvist, P., Maeda, K., McDermid, R.M., Medling, A.M., Moran, S., Reguitti, A., Shahbandeh, M., Tsygankov, S., U, V., and Wevers, T.

MNRAS 498, 2167 (2020)

*The jet of S5 0716 + 71 at  $\mu$  as scales with RadioAstron.*

Kravchenko, E.V., Gómez, J.L., Kovalev, Y.Y., and Voitsik, P.A.

Adv. Space Res. 65, 720 (2020)

*Monitoring of the radio galaxy M 87 during a low-emission state from 2012 to 2015 with MAGIC.*

MAGIC Collaboration, Acciari, V.A., Ansoldi, S., Antonelli, L.A., Arbet Engels, A., Arcaro, C., Baack, D., Babić, A., Banerjee, B., Bangale, P., Barres de Almeida, U., Barrio, J.A., Becerra González, J., Bednarek, W., Bellizzi, L., Bernardini, E., Berti, A., Besenrieder, J., Bhattacharyya, W., Bigongiari, C., Biland, A., Blanch, O., Bonnoli, G., Bošnjak, Ž., Busetto, G., Carosi, R., Ceribella, G., Chai, Y., Chilingaryan, A., Cikota, S., Colak, S.M., Colin, U., Colombo, E., Contreras, J.L., Cortina, J., Covino, S., D'Elia, V., da Vela, P., Dazzi, F., de Angelis, A., de Lotto, B., Delfino, M., Delgado, J., Depaoli, D., di Pierro, F., di Venere, L., Do Souto Espiñeira, E., Dominis Prester, D., Donini, A., Dorner, D., Doro, M., Elsaesser, D., Fallah Ramazani, V., Fattorini, A., Fernández-Barral, A., Ferrara, G., Fidalgo, D., Foffano, L., Fonseca, M.V., Font, L., Fruck, C., Fukami, S., García López, R.J., Garczarczyk, M., Gasparyan, S., Gaug, M., Giglietto, N., Giordano, F., Godinović, N., Green, D., Guberman, D., Hadasch, D., Hahn, A., Herrera, J., Hoang, J., Hrupec, D., Hütten, M., Inada, T., Inoue, S., Ishio, K., Iwamura, Y., Jouvin, L., Kerszberg, D., Kubo, H., Kushida, J., Lamastra, A., Lelas, D., Leone, F., Lindfors, E., Lombardi, S., Longo, F., López, M., López-Coto, R., López-Oramas, A., Loporchio, S., Machado de Oliveira Fraga, B., Maggio, C., Majumdar, P., Makariev, M., Mallamaci, M., Maneva, G., Manganaro, M., Mannheim, K., Maraschi, L., Mariotti, M., Martínez, M., Masuda, S., Mazin, D., Mićanović, S., Miceli, D., Mineev, M., Miranda, J.M., Mirzoyan, R., Molina, E., Moralejo, A., Morcuende, D., Moreno, V., Moretti, E., Munar-Adrover, P., Neustroev, V., Nigro, C., Nilsson, K., Ninci, D., Nishijima, K., Noda, K., Nogués, L., Nöthe, M., Nozaki, S., Paiano, S., Palacio, J., Palatiello, M., Paneque, D., Paoletti, R., Paredes, J.M., Peñil, P., Peresano, M., Persic, M., Prada Moroni, P.G., Prandini, E., Puljak, I., Rhode, W., Ribó, M., Rico, J., Righi, C., Rugliancich, A., Saha, L., Sahakyan, N., Saito, T., Sakurai, S., Satalecka, K., Schmidt, K., Schweizer, T., Sitarek, J., Šnidarić, I., Sobczynska, D., Somero, A., Stamerra, A., Strom, D., Strzys, M., Suda, Y., Surić, T., Takahashi, M., Tavecchio, F., Temnikov, P., Terzić, T., Teshima, M., Torres-Albà, N., Tosti, L., Tsujimoto, S., Vagelli, V., van Scherpenberg, J., Vanzo, G., Acosta, M.V., Vigorito, C.F., Vitale, V., Vovk, I., Will, M., Zarić, D., Asano, K., Hada, K., Harris, D.E., Giroletti, M., Jermak, H.E., Madrid, J.P., Massaro, F., Richter, S., Spanier, F., Steele, I.A., and Walker, R.C.

MNRAS 492, 5354 (2020)

*A repeating fast radio burst source localized to a nearby spiral galaxy.*

Marcote, B., Nimmo, K., Hessels, J.W.T., Tendulkar, S.P., Bassa, C.G., Paragi, Z., Keimpema, A., Bhardwaj, M., Karuppusamy, R., Kaspi, V.M., Law, C.J., Michilli, D., Aggarwal, K., Andersen, B., Archibald, A.M., Bandura, K., Bower, G.C., Boyle, P.J., Brar, C., Burke-Spolaor, S., Butler, B.J., Cassanelli, T., Chawla, P., Demorest, P., Dobbs, M., Fonseca, E., Giri, U., Good, D.C., Gourdji, K., Josephy, A., Kirichenko, A.Y., Kirsten, F., Landecker, T.L., Lang, D., Lazio, T.J.W., Li, D.Z., Lin, H.-H., Linford, J.D., Masui, K., Mena-Parra, J., Naidu, A., Ng, C., Patel, C., Pen, U.-L., Pleunis, Z., Rafiei-Ravandi, M., Rahman, M., Renard, A., Scholz, P., Siegel, S.R., Smith, K.M., Stairs, I.H., Vanderlinde, K., and Zwaniga, A.V.  
Nature 577, 190 (2020)

*The Nearby Luminous Transient AT2018cow: A Magnetar Formed in a Subrelativistically Expanding Nonjetted Explosion.*

Mohan, P., An, T., and Yang, J.  
ApJ 888, L24 (2020)

*The e-MERGE Survey (e-MERLIN Galaxy Evolution Survey): overview and survey description.*

Muxlow, T.W.B., Thomson, A.P., Radcliffe, J.F., Wrigley, N.H., Beswick, R.J., Smail, I., McHardy, I.M., Garrington, S.T., Ivison, R.J., Jarvis, M.J., Prandoni, I., Bondi, M., Guidetti, D., Argo, M.K., Bacon, D., Best, P.N., Biggs, A.D., Chapman, S.C., Coppin, K., Chen, H., Garratt, T.K., Garrett, M.A., Ibar, E., Kneib, J.-P., Knudsen, K.K., Koopmans, L.V.E., Morabito, L.K., Murphy, E.J., Njeri, A., Pearson, C., Pérez-Torres, M.A., Richards, A.M.S., Röttgering, H.J.A., Sargent, M.T., Serjeant, S., Simpson, C., Simpson, J.M., Swinbank, A.M., Varenus, E., and Venturi, T.  
MNRAS 495, 1188 (2020)

*Long-term multi-frequency maser observations of the intermediate-mass young stellar object G107.298+5.639.*

Olech, M., Szymczak, M., Wolak, P., Gérard, E., and Bartkiewicz, A.  
A&A 634, A41 (2020)

*Radio properties of the OH megamaser galaxy IRAS 02524+2046.*

Peng, H., Wu, Z., Zhang, B., Chen, Y., Zheng, X., Jiang, D., Shen, Z., Chen, X., and Sotnikova, Y.V.  
A&A 638, A78 (2020)

*Observational Evidence for the Origin of High-energy Neutrinos in Parsec-scale Nuclei of Radio-bright Active Galaxies.*

Plavin, A., Kovalev, Y.Y., Kovalev, Y.A., and Troitsky, S.  
ApJ 894, 101 (2020)

*Sub-milliarsecond imaging of a bright flare and ejection event in the extragalactic jet 3C 111.*

Schulz, R., Kadler, M., Ros, E., Perucho, M., Krichbaum, T.P., Agudo, I., Beuchert, T., Lindqvist, M., Mannheim, K., Wilms, J., and Zensus, J.A.  
A&A 644, A85 (2020)

*VLBI observations of the H<sub>2</sub>O gigamaser in TXS 2226-184.*  
Surcis, G., Tarchi, A., and Castangia, P.  
A&A 637, A57 (2020)

*Localizing the  $\gamma$ -ray emitting region in the blazar TXS 2013+370.*  
Traianou, E., Krichbaum, T.P., Boccaschi, B., Angioni, R., Rani, B., Liu, J., Ros, E., Bach, U., Sokolovsky, K.V., Lisakov, M.M., Kiehlmann, S., Gurwell, M., and Zensus, J.A.  
A&A 634, A112 (2020)

*Multiband RadioAstron space VLBI imaging of the jet in quasar S5 0836+710.*  
Vega-García, L., Lobanov, A.P., Perucho, M., Bruni, G., Ros, E., Anderson, J.M., Agudo, I., Davis, R., Gómez, J.L., Kovalev, Y.Y., Krichbaum, T.P., Lisakov, M., Savolainen, T., Schinzel, F.K., and Zensus, J.A.  
A&A 641, A40 (2020)

*The dying accretion and jet in a powerful radio galaxy of Hercules A.*  
Wu, L.-H., Wu, Q.-W., Feng, J.-C., Lu, R.-S., and Fan, X.-L.  
Research in A&A 20, 122 (2020)

*A parsec-scale radio jet launched by the central intermediate-mass black hole in the dwarf galaxy SDSS J090613.77+561015.2.*  
Yang, J., Gurvits, L.I., Paragi, Z., Frey, S., Conway, J.E., Liu, X., and Cui, L.  
MNRAS 495, L71 (2020)

*A two-sided but significantly beamed jet in the supercritical accretion quasar IRAS F11119+3257.*  
Yang, J., Paragi, Z., An, T., Baan, W.A., Mohan, P., and Liu, X.  
MNRAS 494, 1744 (2020)

*Multiepoch VLBI of L Dwarf Binary 2MASS J0746+2000AB: Precise Mass Measurements and Confirmation of Radio Emission from Both Components.*  
Zhang, Q., Hallinan, G., Brisken, W., Bourke, S., and Golden, A.  
ApJ 897, 11 (2020)

## **Astronomy: LOFAR**

*A LOFAR census of non-recycled pulsars: extending to frequencies below 80 MHz.*  
Bilous, A.V., Bondonneau, L., Kondratiev, V.I., Griebmeier, J.-M., Theureau, G., Hessels, J.W.T., Kramer, M., van Leeuwen, J., Sobey, C., Stappers, B.W., ter Veen, S., and Weltevrede, P.  
A&A 635, A75 (2020)

*LOFAR observations of X-ray cavity systems.*  
Bîrzan, L., Rafferty, D.A., Brüggen, M., Botteon, A., Brunetti, G., Cuciti, V., Edge, A.C., Morganti, R., Röttgering, H.J.A., and Shimwell, T.W.  
MNRAS 496, 2613 (2020)

*A census of the pulsar population observed with the international LOFAR station FR606 at low frequencies (25-80 MHz).*

Bondonneau, L., Griebmeier, J.-M., Theureau, G., Bilous, A.V., Kondratiev, V.I., Serylak, M., Keith, M.J., and Lyne, A.G.  
A&A 635, A76 (2020)

*Decoherence in LOFAR-VLBI beamforming.*

Bonnassieux, E., Edge, A., Morabito, L., and Bonafede, A.  
A&A 637, A51 (2020)

*The Beautiful Mess in Abell 2255.*

Botteon, A., Brunetti, G., van Weeren, R.J., Shimwell, T.W., Pizzo, R.F., Cassano, R., Iacobelli, M., Gastaldello, F., Birzan, L., Bonafede, A., Brügger, M., Cuciti, V., Dallacasa, D., de Gasperin, F., Di Gennaro, G., Drabent, A., Hardcastle, M.J., Hoeft, M., Mandal, S., Röttgering, H.J.A., and Simionescu, A.  
ApJ 897, 93 (2020)

*A giant radio bridge connecting two galaxy clusters in Abell 1758.*

Botteon, A., van Weeren, R.J., Brunetti, G., de Gasperin, F., Intema, H.T., Osinga, E., Di Gennaro, G., Shimwell, T.W., Bonafede, A., Brügger, M., Cassano, R., Cuciti, V., Dallacasa, D., Gastaldello, F., Mandal, S., Rossetti, M., and Röttgering, H.J.A.  
MNRAS 499, L11 (2020)

*The multiphase and magnetized neutral hydrogen seen by LOFAR.*

Bracco, A., Jelić, V., Marchal, A., Turić, L., Erceg, A., Miville-Deschênes, M.-A., and Bellomi, E.  
A&A 644, L3 (2020)

*LOFAR 144-MHz follow-up observations of GW170817.*

Broderick, J.W., Shimwell, T.W., Gourdj, K., Rowlinson, A., Nissanke, S., Hotokezaka, K., Jonker, P.G., Tasse, C., Hardcastle, M.J., Oonk, J.B.R., Fender, R.P., Wijers, R.A.M.J., Shulevski, A., Stewart, A.J., ter Veen, S., Moss, V.A., van der Wiel, M.H.D., Nichols, D.A., Piette, A., Bell, M.E., Carbone, D., Corbel, S., Eisloffel, J., Griebmeier, J.-M., Keane, E.F., Law, C.J., Muñoz-Darias, T., Pietka, M., Serylak, M., van der Horst, A.J., van Leeuwen, J., Wijnands, R., Zarka, P., Anderson, J.M., Bentum, M.J., Blaauw, R., Brouw, W.N., Brügger, M., Ciardi, B., de Vos, M., Duscha, S., Fallows, R.A., Franzen, T.M.O., Garrett, M.A., Gunst, A.W., Hoeft, M., Hörandel, J.R., Iacobelli, M., Jütte, E., Koopmans, L.V.E., Krankowski, A., Maat, P., Mann, G., Mulder, H., Nelles, A., Paas, H., Pandey-Pommier, M., Pekal, R., Reich, W., Röttgering, H.J.A., Schwarz, D.J., Smirnov, O., Soida, M., Toribio, M.C., van Haarlem, M.P., van Weeren, R.J., Vocks, C., Wucknitz, O., and Zucca, P.  
MNRAS 494, 5110 (2020)

*Cosmic rays and magnetic fields in the core and halo of the starburst M82: implications for galactic wind physics.*

Buckman, B.J., Linden, T., and Thompson, T.A.  
MNRAS 494, 2679 (2020)

*Low-frequency observations of the giant radio galaxy NGC 6251.*

Cantwell, T.M., Bray, J.D., Croston, J.H., Scaife, A.M.M., Mulcahy, D.D., Best, P.N., Brüggen, M., Brunetti, G., Callingham, J.R., Clarke, A.O., Hardcastle, M.J., Harwood, J.J., Heald, G., Heesen, V., Iacobelli, M., Jamrozy, M., Morganti, R., Orrú, E., O'Sullivan, S.P., Riseley, C.J., Röttgering, H.J.A., Shulevski, A., Sridhar, S.S., Tasse, C., and Van Eck, C.L. MNRAS 495, 143 (2020)

*The LOFAR view of FR 0 radio galaxies.*

Capetti, A., Brienza, M., Baldi, R.D., Giovannini, G., Morganti, R., Hardcastle, M.J., Röttgering, H.J.A., Brunetti, G.F., Best, P.N., and Miley, G. A&A 642, A107 (2020)

*Characterization of unresolved and unclassified sources detected in radio continuum surveys of the Galactic plane.*

Chakraborty, A., Roy, N., Wang, Y., Datta, A., Beuther, H., Medina, S.-N.X., Menten, K.M., Urquhart, J.S., Brunthaler, A., and Dzib, S.A. MNRAS 492, 2236 (2020)

*Detection of Repeating FRB 180916.J0158+65 Down to Frequencies of 300 MHz.*

Chawla, P., Andersen, B.C., Bhardwaj, M., Fonseca, E., Josephy, A., Kaspi, V.M., Michilli, D., Pleunis, Z., Bandura, K.M., Bassa, C.G., Boyle, P.J., Brar, C., Cassanelli, T., Cubranic, D., Dobbs, M., Dong, F.Q., Gaensler, B.M., Good, D.C., Hessels, J.W.T., Landecker, T.L., Leung, C., Li, D.Z., Lin, H.-H., Masui, K., Mckinven, R., Mena-Parra, J., Merryfield, M., Meyers, B.W., Naidu, A., Ng, C., Patel, C., Rafiei-Ravandi, M., Rahman, M., Sanghavi, P., Scholz, P., Shin, K., Smith, K.M., Stairs, I.H., Tendulkar, S.P., Vanderlinde, K. ApJ 896, L41 (2020)

*Subsecond Time Evolution of Type III Solar Radio Burst Sources at Fundamental and Harmonic Frequencies.*

Chen, X., Kontar, E.P., Chrysaphi, N., Jeffrey, N.L.S., Gordovskyy, M., Yan, Y., and Tan, B. ApJ 905, 43 (2020)

*First Observation of a Type II Solar Radio Burst Transitioning between a Stationary and Drifting State.*

Chrysaphi, N., Reid, H.A.S., and Kontar, E.P. ApJ 893, 115 (2020)

*Giant radio galaxies in the LOFAR Two-metre Sky Survey. I. Radio and environmental properties.*

Dabhade, P., Röttgering, H.J.A., Bagchi, J., Shimwell, T.W., Hardcastle, M.J., Sankhyayan, S., Morganti, R., Jamrozy, M., Shulevski, A., and Duncan, K.J. A&A 635, A5 (2020)

*Reaching thermal noise at ultra-low radio frequencies. Toothbrush radio relic downstream of the shock front.*

de Gasperin, F., Brunetti, G., Brüggen, M., van Weeren, R., Williams, W.L., Botteon, A., Cuciti, V., Dijkema, T.J., Edler, H., Iacobelli, M., Kang, H., Offringa, A., Orrú, E., Pizzo, R., Rafferty, D., Röttgering, H., and Shimwell, T. A&A 642, A85 (2020)

*Radio observations of HD 80606 near planetary periastron. II. LOFAR low band antenna observations at 30-78 MHz.*

de Gasperin, F., Lazio, T.J.W., and Knapp, M.  
A&A 644, A157 (2020)

*Cassiopeia A, Cygnus A, Taurus A, and Virgo A at ultra-low radio frequencies.*

de Gasperin, F., Vink, J., McKean, J.P., Asgekar, A., Avruch, I., Bentum, M.J., Blaauw, R., Bonafede, A., Broderick, J.W., Brügger, M., Breitling, F., Brouw, W.N., Butcher, H.R., Ciardi, B., Cuciti, V., de Vos, M., Duscha, S., Eislöffel, J., Engels, D., Fallows, R.A., Franzen, T.M.O., Garrett, M.A., Gunst, A.W., Hörandel, J., Heald, G., Hoeft, M., Iacobelli, M., Koopmans, L.V.E., Krankowski, A., Maat, P., Mann, G., Mevius, M., Miley, G., Morganti, R., Nelles, A., Norden, M.J., Offringa, A.R., Orrú, E., Paas, H., Pandey, V.N., Pandey-Pommier, M., Pekal, R., Pizzo, R., Reich, W., Rowlinson, A., Röttgering, H.J.A., Schwarz, D.J., Shulevski, A., Smirnov, O., Sobey, C., Soida, M., Steinmetz, M., Tagger, M., Toribio, M.C., van Ardenne, A., van der Horst, A.J., van Haarlem, M.P., van Weeren, R.J., Vocks, C., Wucknitz, O., Zarka, P., and Zucca, P.  
A&A 635, A150 (2020)

*Fast magnetic field amplification in distant galaxy clusters.*

Di Gennaro, G., van Weeren, R.J., Brunetti, G., Cassano, R., Brügger, M., Hoeft, M., Shimwell, T.W., Röttgering, H.J.A., Bonafede, A., Botteon, A., Cuciti, V., Dallacasa, D., de Gasperin, F., Domínguez-Fernández, P., Enßlin, T.A., Gastaldello, F., Mandal, S., Rossetti, M., and Simionescu, A.  
Nature Astronomy (2020)

*Dispersion measure variability for 36 millisecond pulsars at 150 MHz with LOFAR.*

Donner, J.Y., Verbiest, J.P.W., Tiburzi, C., Osłowski, S., Künsemöller, J., Bak Nielsen, A.-S., Griebmeier, J.-M., Serylak, M., Kramer, M., Anderson, J.M., Wucknitz, O., Keane, E., Kondratiev, V., Sobey, C., McKee, J.W., Bilous, A.V., Breton, R.P., Brügger, M., Ciardi, B., Hoeft, M., van Leeuwen, J., and Vocks, C.  
A&A 644, A153 (2020)

*Searching for the largest bound atoms in space.*

Emig, K.L., Salas, P., de Gasperin, F., Oonk, J.B.R., Toribio, M.C., Mechev, A.P., Röttgering, H.J.A., and Tielens, A.G.G.M.  
A&A 634, A138 (2020)

*A LOFAR observation of ionospheric scintillation from two simultaneous travelling ionospheric disturbances.*

Fallows, R.A., Forte, B., Astin, I., Allbrook, T., Arnold, A., Wood, A., Dorrian, G., Mevius, M., Rothkaehl, H., Matyjasiak, B., Krankowski, A., Anderson, J.M., Asgekar, A., Avruch, I.M., Bentum, M., Bisi, M.M., Butcher, H.R., Ciardi, B., Dabrowski, B., Damstra, S., de Gasperin, F., Duscha, S., Eislöffel, J., Franzen, T.M.O., Garrett, M.A., Griebmeier, J.-M., Gunst, A.W., Hoeft, M., Hörandel, J.R., Iacobelli, M., Intema, H.T., Koopmans, L.V.E., Maat, P., Mann, G., Nelles, A., Paas, H., Pandey, V.N., Reich, W., Rowlinson, A., Ruiter, M., Schwarz, D.J., Serylak, M., Shulevski, A., Smirnov, O.M., Soida, M., Steinmetz, M., Thoudam, S., Toribio, M.C., van Ardenne, A., van Bemmelen, I.M., van der Wiel, M.H.D., van Haarlem, M.P., Vermeulen, R.C., Vocks, C., Wijers, R.A.M.J., Wucknitz, O., Zarka, P., Zucca, P.  
JSWSC 10, 10 (2020)

*Revisiting the Fraction of Radio-Loud Narrow Line Seyfert 1 Galaxies with LoTSS DRI.*  
Fan, X.-L.  
Universe 6, 45 (2020)

*The AARTFAAC Cosmic Explorer: observations of the 21-cm power spectrum in the EDGES absorption trough.*  
Gehlot, B.K., Mertens, F.G., Koopmans, L.V.E., Offringa, A.R., Shulevski, A., Mevius, M., Brentjens, M.A., Kuiack, M., Pandey, V.N., Rowlinson, A., Sardarabadi, A.M., Vedantham, H.K., Wijers, R.A.M.J., Yatawatta, S., and Zaroubi, S.  
MNRAS 499, 4158 (2020)

*Constraining the intergalactic medium at  $z \approx 9.1$  using LOFAR Epoch of Reionization observations.*  
Ghara, R., Giri, S.K., Mellema, G., Ciardi, B., Zaroubi, S., Iliev, I.T., Koopmans, L.V.E., Chapman, E., Gazagnes, S., Gehlot, B.K., Ghosh, A., Jelić, V., Mertens, F.G., Mondal, R., Schaye, J., Silva, M.B., Asad, K.M.B., Kooistra, R., Mevius, M., Offringa, A.R., Pandey, V.N., and Yatawatta, S.  
MNRAS 493, 4728 (2020)

*Radio galaxies and feedback from AGN jets.*  
Hardcastle, M.J. and Croston, J.H.  
New Astronomy Reviews 88, 101539 (2020)

*Radio Emission Reveals Inner Meter-Scale Structure of Negative Lightning Leader Steps.*  
Hare, B.M., Scholten, O., Dwyer, J., Ebert, U., Nijdam, S., Bonardi, A., Buitink, S., Corstanje, A., Falcke, H., Huege, T., Hörandel, J.R., Krampah, G.K., Mitra, P., Mulrey, K., Neijzen, B., Nelles, A., Pandya, H., Rachen, J.P., Rossetto, L., Trinh, T.N.G., ter Veen, S., and Winchen, T.  
Phys. Rev. Lett. 124, 105101 (2020)

*The great Kite in the sky: A LOFAR observation of the radio source in Abell 2626.*  
Ignesti, A., Shimwell, T., Brunetti, G., Gitti, M., Intema, H., van Weeren, R.J., Hardcastle, M.J., Clarke, A.O., Botteon, A., Di Gennaro, G., Brügger, M., Browne, I.W.A., Mandal, S., Röttgering, H.J.A., Cuciti, V., de Gasperin, F., Cassano, R., and Scaife, A.M.M.  
A&A 643, A172 (2020)

*The life cycle of radio galaxies in the LOFAR Lockman Hole field.*  
Jurlin, N., Morganti, R., Brienza, M., Mandal, S., Maddox, N., Duncan, K.J., Shabala, S.S., Hardcastle, M.J., Prandoni, I., Röttgering, H.J.A., Mahatma, V., Best, P.N., Mingo, B., Sabater, J., Shimwell, T.W., and Tasse, C.  
A&A 638, A34 (2020)

*Long-term study of extreme giant pulses from PSR B0950+08 with AARTFAAC.*  
Kuiack, M., Wijers, R.A.M.J., Rowlinson, A., Shulevski, A., Huizinga, F., Molenaar, G., and Prasad, P.  
MNRAS 497, 846 (2020)

*Radio Echo in the Turbulent Corona and Simulations of Solar Drift-pair Radio Bursts.*  
Kuznetsov, A.A., Chrysaphi, N., Kontar, E.P., and Motorina, G.  
ApJ 898, 94 (2020)

*On Frequency-dependent Dispersion Measures and Extreme Scattering Events.*

Lam, M.T., Lazio, T.J.W., Dolch, T., Jones, M.L., McLaughlin, M.A., Stinebring, D.R., and Surnis, M.

ApJ 892, 89 (2020)

*Discovering the most elusive radio relic in the sky: diffuse shock acceleration caught in the act?*

Locatelli, N.T., Rajpurohit, K., Vazza, F., Gastaldello, F., Dallacasa, D., Bonafede, A., Rossetti, M., Stuardi, C., Bonassieux, E., Brunetti, G., Brüggén, M., and Shimwell, T.

MNRAS 496, L48 (2020)

*Fine Structure of a Solar Type II Radio Burst Observed by LOFAR.*

Magdalenic, J., Marqué, C., Fallows, R.A., Mann, G., Vocks, C., Zucca, P., Dabrowski, B.P., Krankowski, A., and Melnik, V.

ApJ 897, L15 (2020)

*Evolution of the Alfvén Mach number associated with a coronal mass ejection shock.*

Maguire, C.A., Carley, E.P., McCauley, J., and Gallagher, P.T.

A&A 633, A56 (2020)

*Revived fossil plasma sources in galaxy clusters.*

Mandal, S., Intema, H.T., van Weeren, R.J., Shimwell, T.W., Botteon, A., Brunetti, G., de Gasperin, F., Brüggén, M., Di Gennaro, G., Kraft, R., Röttgering, H.J.A., Hardcastle, M., and Tasse, C.

A&A 634, A4 (2020)

*Double-peak emission line galaxies in the SDSS catalogue. A minor merger sequence.*

Maschmann, D., Melchior, A.-L., Mamon, G.A., Chilingarian, I.V., and Katkov, I.Y.

A&A 641, A171 (2020)

*Characterizing EoR foregrounds: a study of the Lockman Hole region at 325 MHz.*

Mazumder, A., Chakraborty, A., Datta, A., Choudhuri, S., Roy, N., Wadadekar, Y., and Ishwara-Chandra, C.H.

MNRAS 495, 4071 (2020)

*Improved upper limits on the 21 cm signal power spectrum of neutral hydrogen at  $z \approx 9.1$  from LOFAR.*

Mertens, F.G., Mevius, M., Koopmans, L.V.E., Offringa, A.R., Mellema, G., Zaroubi, S., Brentjens, M.A., Gan, H., Gehlot, B.K., Pandey, V.N., Sardarabadi, A.M., Vedantham, H.K., Yatawatta, S., Asad, K.M.B., Ciardi, B., Chapman, E., Gazagnes, S., Ghara, R., Ghosh, A., Giri, S.K., Iliev, I.T., Jelić, V., Kooistra, R., Mondal, R., Schaye, J., and Silva, M.B.

MNRAS 493, 1662 (2020)

*Deep learning assisted data inspection for radio astronomy.*

Mesarcik, M., Boonstra, A.-J., Meijer, C., Jansen, W., Rangelova, E., and van Nieuwpoort, R.V.

MNRAS 496, 1517 (2020)

*The LOFAR tied-array all-sky survey (LOTAAS): Characterization of 20 pulsar discoveries and their single-pulse behaviour.*

Michilli, D., Bassa, C., Cooper, S., Hessels, J.W.T., Kondratiev, V.I., Sanidas, S., Stappers, B.W., Tan, C.M., van Leeuwen, J., Cognard, I., Grießmeier, J.-M., Lyne, A.G., Verbiest, J.P.W., and Weltevrede, P.  
MNRAS 491, 725 (2020)

*Reconstructing air shower parameters with LOFAR using event specific GDAS atmosphere.*

Mitra, P., Bonardi, A., Corstanje, A., Buitink, S., Krampah, G.K., Falcke, H., Hare, B.M., Hörandel, J.R., Huege, T., Mulrey, K., Nelles, A., Rachen, J.P., Rossetto, L., Scholten, O., ter Veen, S., Trinh, T.N.G., Winchen, T., and Pandya, H.  
Astropart. Phys. 123, 102470 (2020)

*Tight constraints on the excess radio background at  $z = 9.1$  from LOFAR.*

Mondal, R., Fialkov, A., Fling, C., Iliev, I.T., Barkana, R., Ciardi, B., Mellema, G., Zaroubi, S., Koopmans, L.V.E., Mertens, F.G., Gehlot, B.K., Ghara, R., Ghosh, A., Giri, S.K., Offringa, A., and Pandey, V.N.  
MNRAS 498, 4178 (2020)

*The Massive and Distant Clusters of WISE Survey. IX. High Radio Activity in a Merging Cluster.*

Moravec, E., Gonzalez, A.H., Dicker, S., Alberts, S., Brodwin, M., Clarke, T.E., Connor, T., Decker, B., Devlin, M., Eisenhardt, P.R.M., Mason, B.S., Mo, W., Mroczkowski, T., Pope, A., Romero, C.E., Sarazin, C., Sievers, J., Stanford, S.A., Stern, D., Wylezalek, D., and Zago, F.  
ApJ 898, 145 (2020)

*The Massive and Distant Clusters of WISE Survey. VII. The Environments and Properties of Radio Galaxies in Clusters at  $z \sim 1$ .*

Moravec, E., Gonzalez, A.H., Stern, D., Clarke, T., Brodwin, M., Decker, B., Eisenhardt, P.R.M., Mo, W., Pope, A., Stanford, S.A., and Wylezalek, D.  
ApJ 888, 74 (2020)

*On the cosmic-ray energy scale of the LOFAR radio telescope.*

Mulrey, K., Buitink, S., Corstanje, A., Falcke, H., Hare, B.M., Hörandel, J.R., Huege, T., Krampah, G.K., Mitra, P., Nelles, A., Pandya, H., Rachen, J.P., Scholten, O., ter Veen, S., Thoudam, S., Trinh, T.N.G., and Winchen, T.  
JCAP 2020, 17 (2020)

*Discovery of a Gamma-Ray Black Widow Pulsar by GPU-accelerated Einstein@Home.*

Nieder, L., Clark, C.J., Kandel, D., Romani, R.W., Bassa, C.G., Allen, B., Ashok, A., Cognard, I., Fehrmann, H., Freire, P., Karuppusamy, R., Kramer, M., Li, D., Machenschalk, B., Pan, Z., Papa, M.A., Ransom, S.M., Ray, P.S., Roy, J., Wang, P., Wu, J., Aulbert, C., Barr, E.D., Beheshtipour, B., Behnke, O., Bhattacharyya, B., Breton, R.P., Camilo, F., Choquet, C., Dhillon, V.S., Ferrara, E.C., Guillemot, L., Hessels, J.W.T., Kerr, M., Kwang, S.A., Marsh, T.R., Mickaliger, M.B., Pleunis, Z., Pletsch, H.J., Roberts, M.S.E., Sanpa-arsa, S., and Steltner, B.  
ApJ 902, L46 (2020)

*The LOFAR Long-Baseline Calibrator Survey Classification.*

Nikolajevs, A. and Prūsis, K.

Latvian Journal of Physics and Technical Sciences 57, 34 (2020)

*Redshifted 21-cm emission signal from the halos in Dark Ages.*

Novosyadlyj, B., Shulga, V., Kulinich, Y., and Han, W.

Physics of the Dark Universe 27, 100422 (2020)

*Alignment in the orientation of LOFAR radio sources.*

Osinga, E., Miley, G.K., van Weeren, R.J., Shimwell, T.W., Duncan, K.J., Hardcastle, M.J.,

Mechev, A.P., Röttgering, H.J.A., Tasse, C., and Williams, W.L.

A&A 642, A70 (2020)

*New constraints on the magnetization of the cosmic web using LOFAR Faraday rotation observations.*

O'Sullivan, S.P., Brügger, M., Vazza, F., Carretti, E., Locatelli, N.T., Stuardi, C., Vacca, V.,

Vernstrom, T., Heald, G., Horellou, C., Shimwell, T.W., Hardcastle, M.J., Tasse, C.,

Röttgering, H.

MNRAS 495, 2607 (2020)

*Radio relic and the diffuse emission trail discovered in low-mass galaxy cluster Abell 1697.*

Paul, S., Salunkhe, S., Sonkamble, S., Gupta, P., Mroczkowski, T., and Raychaudhury, S.

A&A 633, A59 (2020)

*Study of spider pulsar binary eclipses and discovery of an eclipse mechanism transition.*

Polzin, E.J., Breton, R.P., Bhattacharyya, B., Scholte, D., Sobey, C., and Stappers, B.W.

MNRAS 494, 2948 (2020)

*Differences in radio emission from similar M dwarfs in the binary system Ross 867-8.*

Quiroga-Nuñez, L.H., Intema, H.T., Callingham, J.R., Villadsen, J., van Langevelde, H.J.,

Jagannathan, P., Shimwell, T.W., and Boven, E.P.

A&A 633, A130 (2020)

*New mysteries and challenges from the Toothbrush relic: wideband observations from 550 MHz to 8 GHz.*

Rajpurohit, K., Hoeft, M., Vazza, F., Rudnick, L., van Weeren, R.J., Wittor, D., Drabent, A.,

Brienza, M., Bonnassieux, E., Locatelli, N., Kale, R., and Dumba, C.

A&A 636, A30 (2020)

*A perfect power-law spectrum even at the highest frequencies: The Toothbrush relic.*

Rajpurohit, K., Vazza, F., Hoeft, M., Loi, F., Beck, R., Vacca, V., Kierdorf, M., van

Weeren, R.J., Wittor, D., Govoni, F., Murgia, M., Riseley, C.J., Locatelli, N., Drabent, A.,

and Bonnassieux, E.

A&A 642, L13 (2020)

*The optical luminosity function of LOFAR radio-selected quasars at  $1.4 \leq z \leq 5.0$  in the NDWFS-Boötes field.*

Retana-Montenegro, E. and Röttgering, H.J.A.

A&A 636, A12 (2020)

*Fundamental differences in the radio properties of red and blue quasars: insight from the LOFAR Two-metre Sky Survey (LoTSS).*

Rosario, D.J., Fawcett, V.A., Klindt, L., Alexander, D.M., Morabito, L.K., Fotopoulou, S., Lusso, E., and Calistro Rivera, G.  
MNRAS 494, 3061 (2020)

*The Significance of Low-frequency Interferometric Observations for the GPS Pulsar Flux Estimation: The Case of J1740+1000.*

Rożko, K., Kijak, J., Chyży, K., Lewandowski, W., Shimwell, T., Sridhar, S.S., Curyło, M., Krankowski, A., and Błaszczewicz, L.  
ApJ 903, 144 (2020)

*Tied-array holography with LOFAR.*

Salas, P., Brentjens, M.A., Bordenave, D.D., Oonk, J.B.R., and Röttgering, H.J.A.  
A&A 635, A207 (2020)

*The duty cycle of radio galaxies revealed by LOFAR: remnant and restarted radio source populations in the Lockman Hole.*

Shabala, S.S., Jurlin, N., Morganti, R., Brienza, M., Hardcastle, M.J., Godfrey, L.E.H., Krause, M.G.H., and Turner, R.J.  
MNRAS 496, 1706 (2020)

*One- and two-point source statistics from the LOFAR Two-metre Sky Survey first data release.*

Siewert, T.M., Hale, C., Bhardwaj, N., Biermann, M., Bacon, D.J., Jarvis, M., Röttgering, H.J.A., Schwarz, D.J., Shimwell, T., Best, P.N., Duncan, K.J., Hardcastle, M.J., Sabater, J., Tasse, C., White, G.J., and Williams, W.L.  
A&A 643, A100 (2020)

*LOFAR view of NGC 3998, a sputtering AGN.*

Sridhar, S.S., Morganti, R., Nyland, K., Frank, B.S., Harwood, J., and Oosterloo, T.  
A&A 634, A108 (2020)

*GMRT observations of IC 711 - the longest head-tail radio galaxy known.*

Srivastava, S. and Singal, A.K.  
MNRAS 493, 3811 (2020)

*LOFAR detectability of prompt low-frequency radio emission during gamma-ray burst X-ray flares.*

Starling, R.L.C., Rowlinson, A., van der Horst, A.J., and Wijers, R.A.M.J.  
MNRAS 494, 5787 (2020)

*CHANG-ES. XXI. Transport processes and the X-shaped magnetic field of NGC 4217: off-center superbubble structure.*

Stein, Y., Dettmar, R.-J., Beck, R., Irwin, J., Wiegert, T., Miskolczi, A., Wang, Q.D., English, J., Henriksen, R., Radica, M., and Li, J.-T.  
A&A 639, A111 (2020)

*The LOFAR view of intergalactic magnetic fields with giant radio galaxies.*

Stuardi, C., O'Sullivan, S.P., Bonafede, A., Brügggen, M., Dabhade, P., Horellou, C., Morganti, R., Carretti, E., Heald, G., Iacobelli, M., and Vacca, V.  
A&A 638, A48 (2020)

*The LOFAR Tied-Array all-sky survey: Timing of 21 pulsars including the first binary pulsar discovered with LOFAR.*

Tan, C.M., Bassa, C.G., Cooper, S., Hessels, J.W.T., Kondratiev, V.I., Michilli, D., Sanidas, S., Stappers, B.W., van Leeuwen, J., Donner, J.Y., Griesmeier, J.-M., Kramer, M., Tiburzi, C., Weltevrede, P., Ciardi, B., Hoeft, M., Mann, G., Miskolczi, A., Schwarz, D.J., Vocks, C., and Wucknitz, O.  
MNRAS 492, 5878 (2020)

*LOFAR radio search for single and periodic pulses from M 31.*

van Leeuwen, J., Mikhailov, K., Keane, E., Coenen, T., Connor, L., Kondratiev, V., Michilli, D., and Sanidas, S.  
A&A 634, A3 (2020)

*Direct Radio Discovery of a Cold Brown Dwarf.*

Vedantham, H.K., Callingham, J.R., Shimwell, T.W., Dupuy, T., Best, W.M.J., Liu, M.C., Zhang, Z., De, K., Lamy, L., Zarka, P., Röttgering, H.J.A., and Shulevski, A.  
ApJ 903, L33 (2020)

*Coherent radio emission from a quiescent red dwarf indicative of star-planet interaction.*

Vedantham, H.K., Callingham, J.R., Shimwell, T.W., Tasse, C., Pope, B.J.S., Bedell, M., Snellen, I., Best, P., Hardcastle, M.J., Haverkorn, M., Mechev, A., O'Sullivan, S.P., Röttgering, H.J.A., and White, G.J.  
Nature Astronomy 4, 577 (2020)

*Radio constraints on dark matter annihilation in Canes Venatici I with LOFAR.*

Vollmann, M., Heesen, V., W. Shimwell, T., Hardcastle, M.J., Brügggen, M., Sigl, G., and J. A. Röttgering, H.  
MNRAS 496, 2663 (2020)

*Pulsar candidate selection using pseudo-nearest centroid neighbour classifier.*

Xiao, J., Li, X., Lin, H., and Qiu, K.  
MNRAS 492, 2119 (2020)

*Interferometric imaging with LOFAR remote baselines of the fine structures of a solar type-IIIb radio burst.*

Zhang, P., Zucca, P., Sridhar, S.S., Wang, C., Bisi, M.M., Dabrowski, B., Krankowski, A., Mann, G., Magdalenic, J., Morosan, D.E., and Vocks, C.  
A&A 639, A115 (2020)

*The Frequency Drift and Fine Structures of Solar S-bursts in the High Frequency Band of LOFAR.*

Zhang, P., Zucca, P., Wang, C., Bisi, M.M., Dabrowski, B., Fallows, R.A., Krankowski, A., Magdalenic, J., Mann, G., Morosan, D.E., and Vocks, C.  
ApJ 891, 89 (2020)

*Link between radio-loud AGNs and host-galaxy shape.*

Zheng, X.C., Röttgering, H.J.A., Best, P.N., van der Wel, A., Hardcastle, M.J., Williams, W.L., Bonato, M., Prandoni, I., Smith, D.J.B., and Leslie, S.K.  
A&A 644, A12 (2020)

## **Geoscience**

*Benefits of combining GPS and GLONASS for measuring ocean tide loading displacement*

Abbaszadeh, M., Clarke, P.J., Penna, N.T.  
J Geod 94, 63 (2020)

*On the interoperability of IGS products for precise point positioning with ambiguity resolution.*

Banville, S., Geng, J., Loyer, S., Schaer, S., Springer, T., Strasser, S.  
J Geod 94, 10 (2020)

*On the organization of CONT17.*

Behrend, D., Thomas, C., Gipson, J. et al.  
J Geod 94, 100 (2020)

*Achievements of the First 4 Years of the International Geodynamics and Earth Tide Service (IGETS) 2015–2019.*

Boy, J.P., Barriot, J.P., Förste, C., Voigt, C., Wziontek, H.  
International Association of Geodesy Symposia (2020)

*The third realization of the International Celestial Reference Frame by very long baseline interferometry.*

Charlot, P., Jacobs, C., Gordon, D., Lambert, S., de Witt, A., Böhm, J., Fey, A., Heinkelmann, R., Skurikhina, E., Titov, O., Arias, F., Bolotin, S., Bourda, G., Ma, C., Malkin, Z., Nothnagel, A., Mayer, D., MacMillan, D., Nilsson, T., Gaume, R.  
A&A 644, A159 (2020)

*SNR-based GNSS reflectometry for coastal sea-level altimetry: results from the first IAG inter-comparison campaign.*

Geremia-Nievinski, F., Hobiger, T., Haas, R. et al.  
J Geod 94, 70 (2020)

*Benefits of non-tidal loading applied at distinct levels in VLBI analysis.*

Glomsda, M., Bloßfeld, M., Seitz, M. et al.  
J Geod 94, 90 (2020)

*Erfassung der Hauptreflektordeformation eines Radioteleskops durch UAV-gestützte Nahbereichsphotogrammetrie.*

Greiwe, A., Brechtken, R., Lösler, M., Eschelbach, C., Haas, R.  
Publ. DGPF.  
29 346 (2020)

*Quantifying the Uncertainty in Ground-Based GNSS-Reflectometry Sea Level Measurements* Purnell, D., Gomez, N., Chan, N.H., Strandberg, J., Holland, D.M., Hobiger, T.  
JSTARS 13, 4419 (2020)

*Evaluation of VLBI Observations with Sensitivity and Robustness Analyses.*  
Küreç Nehbit, P., Heinkelmann, R., Schuh, H., Glaser, S., Lunz, S., Mammadaliyev, N., Balidakis, K., Konak, H., Tanır Kayıkçı, E.  
Mathematics 8, 939 (2020)

*Analysis of the Results of 20 Years of Activity of the International VLBI Service for Geodesy and Astrometry.*  
Malkin, Z.M.  
Astronomy Reports 64, 168 (2020)

*Overview of CODE's MGEX solution with the focus on Galileo.*  
Prange, L., Villiger, A., Sidorov, D., Schaer, S., Beutler, G., Dach, R., Jäggi, A.  
Adv. Space Res. 66, 2786 (2020)

*Inter-Comparison of Ground Gravity and Vertical Height Measurements at Collocated IGETS Stations.*  
Rosat, S., Boy, J.P., Bogusz, J., Klos A.  
International Association of Geodesy Symposia (2020)

*Optimizing schedules for the VLBI global observing system.*  
Schartner, M., Böhm J.  
J Geod 94, 12 (2020)

*Optimal antenna locations of the VLBI Global Observing System for the estimation of Earth orientation parameters.*  
Schartner, M., Böhm, J., Nothnagel, A.  
Earth Planets Space 72, 87 (2020)

*Superconducting gravimeter and seismometer shedding light on FG5's offsets, trends and noise: what observations at Onsala Space Observatory can tell us.*  
Scherneck, H.-G., Rajner, M., Engfeldt, A.  
J Geod 94, 80 (2020)

*Upper mantle density and surface gravity change in Fennoscandia, determined from GRACE monthly data.*  
Sjöberg, L.E., Bagherbandia, M.  
Tectonophysics 782-783, 228428 (2020)

*GPS III Vespucci: Results of half a year in orbit.*  
Steigenberger, P., Thielert, S., Montenbruck, O.  
Adv. Space Res. 66, 2773 (2020)

*Can We Measure Sea Level With a Tablet Computer?*  
Strandberg, J., Haas, R.  
IEEE Geoscience and Remote Sensing Letters 17, 1876 (2020)

*M2 constituent of ocean tide loading displacements from VLBI CONT14 hourly sessions.*  
Teke, K.  
Annals of Geophysics 63, 3 (2020)

*Resolving VLBI correlator ambiguity in the time delay model improves precision of geodetic measurements.*  
Titov, O., Melnikov, A., Lopez, Y.  
PASA 37, E050 (2020)

*Homogenizing GPS integrated water vapor time series: Benchmarking break detection methods on synthetic data sets.*  
Van Malderen, R., Pottiaux, E., Klos, A., Domonkos, P., Elias, M., Ning, T., et al.  
Earth Space Science 7, e2020EA001121 (2020)

*Evaluating the impact of CNES real-time ionospheric products on multi-GNSS single-frequency positioning using the IGS real-time service.*  
Wang, A., Chen, J., Zhang, Y., Meng, L., Wang, B., Wang, J.  
Adv. Space Res. 66, 2516 (2020)

## **Technology: receiver development etc.**

*Single-Layer Dichroic Filters for Multifrequency Receivers at THz Frequencies.*  
Montofre, D., Khudchenko, A., Mena, F.P., Hesper, R., Baryshev, A.M.  
IEEE Transactions on Terahertz Science and Technology 10, 690 (2020)

*Wideband 67–116 GHz receiver development for ALMA Band 2.*  
Yagoubov, P., Mroczkowski, T., Belitsky, V., Cuadrado-Calle, D., Cuttaia, F., Fuller, G. A., Gallego, J. -D., Gonzalez, A., Kaneko, K., Mena, P., Molina, R., Nesti, R., Tapia, V., Villa, F., Beltrán, M., Cavaliere, F., Ceru, J., Chesmore, G. E., Coughlin, K., De Breuck, C., Fredrixon, M., George, D., Gibson, H., Golec, J., Josaitis, A., Kemper, F., Kotiranta, M., Lapkin, I., López-Fernández, I., Marconi, G., Mariotti, S., McGenn, W., McMahan, J., Murk, A., Pezzotta, F., Phillips, N., Reyes, N., Ricciardi, S., Sandri, M., Strandberg, M., Terenzi, L., Testi, L., Thomas, B., Uzawa, Y., Viganò, D., Wadefalk, N.  
A&A 634, A46 (2020)

*Dielectrically Loaded Quad-Ridge Flared Horn for Beamwidth Control Over Decade Bandwidth-Optimization, Manufacture, and Measurement.*  
Flygare, J., Pantaleev, M.  
IEEE Transactions on Antennas and Propagation 68, 207 (2020)

*Radio observatories and instrumentation used in space weather science and operations.*  
Carley, E.P., Baldovin, C., Benthem, P., Bisi, M.M., Fallows, R.A., Gallagher, P.T., Olberg, M., Rothkaehl, H., Vermeulen, R., Vilmer, N., Barnes, D.  
Journal of Space Weather and Space Climate 10, 7 (2020)

*Waveguide-to-substrate transition based on unilateral substrateless finline structure: Design, fabrication, and characterization.*  
López, C., Desmaris, V., Meledin, D., Pavolotsky, A., Belitsky, V.  
IEEE Transactions on Terahertz Science and Technology 10, 668 (2020)

*Surface modification of polytetrafluoroethylene thin films by non-coherent UV light and water treatment for electrowetting applications.*

López, C.D., Cedeño-Mata, M., Dominguez-Pumara, M., Bermejo, S.  
Progress in Organic Coatings 149, 105593 (2020)

*Ultrawideband Conical Log-Spiral Circularly Polarized Feed for Radio Astronomy.*

Abdalmalak, K.A., Santamaría Botello, G., Llorente-Romano, S., Rivera-Lavado, A., Flygare, J., López Fernández, J. A., Serna Puente, J. M., García-Castillo, L. E., Segovia-Vargas, D., Pantaleev, M., García-Muñoz, L. E.  
IEEE Transactions on Antennas and Propagation 68, 1995 (2020)

*Design and Implementation of a Compact 90 degrees Waveguide Twist With Machining Tolerant Layout.*

López, C., Desmaris, V., Meledin, D., Pavolotsky, A., Belitsky, V.  
IEEE Microwave and Wireless Components Letters 30, 741 (2020)