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1 SCIENTIFIC ACTIVITY

1.1 Scientific background

1.1.1 Exams

1998 PhD, “Impact response and delamination of composite plates”, KTH Aeronautics

1994 MSc, Dept. of Aeronautics & Astronautics, MIT, Cambridge, USA

1987 MSc, Vehicle Engineering – Applied Mechanics, KTH

1.1.2 Relevant employments:

2008- Senior Scientist, Swerea SICOMP AB, Mölndal, Sweden

2003-2008 Senior Lecturer, Department of Aeronautics, Imperial College London

1994-2003 Researcher, The Aeronautical Research Institute of Sweden (FFA), Bromma

1993-1994 Research assistant, MIT, Dept. of Aeronautics & Astronautics, Cambridge.

1988-1993 Researcher, The Aeronautical Research Institute of Sweden (FFA), Bromma

1.2 Scientific production

1.2.1 Papers in journals with ”peer review”

A.1 Olsson R (1992). Impact response of orthotropic composite laminates predicted from a one-parameter differential equation. AIAA J;30(6):1587-1596.

A.2 Olsson R (1992). A simplified improved beam analysis of the DCB specimen. Compos Sci and Techn;43(4)329-338.

A.3 Olsson R (1996). Discussion on "Interlaminar fracture analysis of composite DCB specimens". Int J Fract;77(2)R41-R43.

A.4 Olsson R, Thesken JC, Brandt F, Jönsson N, Nilsson S (1996). Investigations of delamination criticality and the transferability of growth criteria. Compos Struct;36(3/4)221-247.

A.5 Olsson R, McManus HL (1996). Improved theory for contact indentation of sandwich panels. AIAA J;34(6):1238-1244.

A.6 Juntti M, Asp LE, Olsson R (1999). Assessment of evaluation methods for the mixed mode bending test, J Compos Techn Res;21(1)37-48.

A.7 Olsson R, Asp LE, Nilsson S, Sjögren A (2000). A review of some key developments in the analysis of the effects of impact upon composite structures. Composite Structures: Theory and Practice. ASTM STP 1383. Grant P, Rousseau C, Eds. West Conshohocken: ASTM:12-28.

A.8 Olsson R (2000). Mass criterion for wave controlled impact response of composite plates. Composites Part A;31(8)879-887 (Corrigendum in Composites Part A 2001;32(2)291).

A.9 Olsson R (2001). Analytical prediction of large mass impact damage in composite laminates. Composites Part A 2001;32(9)1207-1215.

A.10 Olsson R (2002). Engineering method for prediction of impact response and damage in sandwich panels. J Sandwich Struct Mater;4(1):83-95.

A.11 Olsson R (2003). Closed form prediction of peak load and delamination onset under small mass impact. Compos Struct;59(3)340-348.

A.12 Olsson R, Iwarsson J, Melin LG, Sjögren A, Solti J (2003). Experiments and analysis of laminates with artificial damage. Compos Sci Techn;63(2):199-209.

A.13 Davies GAO, Olsson R (2004). Impact on composite structures. The Aeronautical J;108(1089):541-563.

A.14 Olsson R, Nilsson S (2006). Simplified prediction of stresses in transversely isotropic composite plates under Hertzian contact load. Compos Struct;73(1):70-77.

A.15 Olsson R, Donadon MV, Falzon BG (2006). Delamination threshold load for dynamic impact on plates. Int J Solids Struct;43(10):3124-3141.

A.16 Malekzadeh K, Khalili MK, Olsson R, Jafari A (2006). Higher-order dynamic response of composite sandwich panels with flexible core under simultaneous low-velocity impact of multiple small masses. Int J Solids Struct;43(22-23):6667-6687.

A.17 Sztefek P, Olsson R (2008). Tensile stiffness distribution in impacted composite laminates determined by an inverse method. Compos Part A;39 (8):1282-1293.

A.18 Cernicchi A, Galvanetto U, Olsson R (2008). Virtual testing of composite motorcycle helmets. Int J Modern Phys; 22(9-11):1705-1711.

A.19 Craven R, Sztefek P, Olsson R (2008). Investigation of impact damage in multi-directional tape laminates and its effect on local tensile stiffness. Compos Sci Technol;68(12):2518-2525.

A.20 Nguyen SN, Greenhalgh ES, Olsson R, Iannucci L, Curtis PT (2008). Modeling the lofting of runway debris by aircraft tires. J Aircraft;45(5):1701-1714.

A.21 Sztefek P, Olsson R (2009). Nonlinear compressive stiffness in impacted composite laminates determined by an inverse method. Compos Part A;40(3):260-272.

A.22 Craven R, Pindoria S, Olsson R (2009). Finite element study of compressively loaded fibres fractured during impact. Compos Sci Technol;69(5):586–593.

A.23 Nguyen SN, Greenhalgh ES, Olsson R, Iannucci L, Curtis PT (2009). Improved models for runway debris lofting simulation. Aeronatical J;113(1148):669-681.

A.24 Nguyen SN, Greenhalgh ES, Olsson R, Iannucci L, Curtis PT (2010). Parametric analysis of runway stone lofting mechanisms. Int J Impact Engng;37(5):502-514.

A.25 Sztefek P, Vanleene M, Olsson R, Collinson R, Pitsillides AA, Shefelbine S (2010). Using digital image correlation to determine bone surface strains during loading and after adaptation of the mouse tibia. J Biomechanics;43(4):599-605.

A.26 Craven R, Iannucci L, Olsson R (2010). Delamination buckling: A finite element study with realistic delamination shapes, multiple delaminations and fibre fracture cracks. Composites Part A;41(5):684-692.

A.27 Olsson R (2010). Analytical model for delamination growth during small mass impact on plates. Int J Solids Struct;47(21):2884-2892.

A.28 Craven R, Iannucci L, Olsson R (2011). Homogenised non-linear soft inclusion for simulation of impact damage in composite structures. Compos Struct;93(2):952–960.

A.29 Olsson R (2011). A survey of test methods for multiaxial and out-of-plane strength of composite laminates. Compos Sci Technol;71(6):773–783.

A.30 Nguyen S, Greenhalgh ES, Iannucci L, Longstaff S, Olsson R, Curtis PT (2011). Experimental characterisation of tyre indentation by simulated runway debris. Strain;47(4):343-350.

A.31 Nguyen SN, Greenhalgh ES, Olsson R (2011). Analytical modeling of runway stone lofting. J Aircraft;49(4):1412-1421.

A.32 Olsson R (2012). Modelling of impact damage zones in composite laminates for strength after impact. Aeronautical J;116(1186):1349-1365.

A.33 André A, Kliger R, Olsson R (2013). Compression failure mechanism in small-scale wood specimens reinforced with CFRP: An experimental study. Construction and Building Materials;41:790-800.

A.34 Grauers L, Olsson R, Gutkin R (2014). Energy absorption and damage mechanisms in progressive crushing of corrugated NCF laminates: Fractographic analysis. Compos Struct;110:110-117.

A.35 Nguyen SN, Greenhalgh ES, Graham JMR, Francis A, Olsson (2014) Runway debris impact threat maps for transport aircraft. Aeronautical J;118(1201):229-266.

A.36 Marklund E, Asp LE, Olsson R (2014). Transverse strength of unidirectional non-crimp fabric composites: Multiscale modelling. Composites Part B;65:47-56.

A.37 Olsson R, Block T (2015). Criteria for skin rupture and core shear cracking induced by impact on sandwich panels. Compos Struct;125:81-87.

A.38 Olsson R (2015). Analytical prediction of damage due to large mass impact on thin ply composites. Composites Part A;72:184-191.

A.39 Wagih A, Maimí P, González EV, Blanco N, Sainz de Aja JR, de la Escalera FM, Olsson R, Alvarez E (2016). Damage sequence in thin-ply composite laminates under out-of-plane loading. Composites Part A;87:66-77.

A.40 Gutkin R, Costa S, Olsson R (2016). A physically based model for kink-band growth and longitudinal crushing of composites under 3D stress states accounting for friction. Compos Sci Technol;135:39-45.

A.41 Costa S, Gutkin R, Olsson R (2017). Mesh objective implementation of a fibre kinking model for damage growth with friction. Compos Struct;168:384–391.

A.42 Bru T, Waldenström P, Gutkin R, Olsson R, Vyas GM (2017). Development of a test method for evaluating the crushing behaviour of unidirectional laminates. J Compos Mater 2017;51(29):4041-4051.

A.43 Bru T, Olsson R, Gutkin R, Vyas GM (2017). Use of the Iosipescu test for the identification of shear damage evolution laws of an orthotropic composite. Compos Struct;174:319–328.

A.44 McElroy MW, Jackson W, Olsson R, Hellström P, Tsampas S, Pankow M (2017). Interaction of delaminations and matrix cracks in a CFRP plate, Part I: A test method for model validation. Composites Part A;103:314-326.

1.2.2 Books and book chapters

B.1 Olsson R (2012). Low and medium velocity impact as a cause of failure in polymer matrix composites. Ch 3 in Failure mechanisms in polymer matrix composites. Eds: Robinson P, Greenhalgh E, Pinho S. Woodhead, Cambridge:53-78.

B.2 Olsson R, Juntikka R, Asp L (2013). High velocity hail impact on composite laminates – modelling and testing. Ch 9 in Dynamic failure of composite and sandwich structures. Eds: Abrate S, Castanie B, Rajapakse YDS. Springer:393-426.

1.2.3 Conference papers

C.1 Gren P, Olsson R (1990). Deformation during impact on an orthotropic composite plate. Int. Conf. on Hologram Interferometry and Speckle Metrology. Stetson K and Pryputniewics Eds. Baltimore;429-434.

C.2 Olsson R (1991). Theory and experimental verification of the impact response of composite plates. 28th Annual Technical Meeting of the Soc. of Engng. Science. Gainesville, FL. Engineering Science Preprint 28.91002.

C.3 Olsson R McManus HL (1995). Simplified theory for contact indentation of sandwich panels. 36th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference, New Orleans, 1812-1820.

C.4 Olsson R (1995). Prediction of impact damage in sandwich panels. Sandwich Constructions 3. Proc. Third Int. Conf. on Sandwich Constr. Allen HG, Ed. EMAS, Solihull;Vol. 1, 659-668.

C.5 Olsson R (1998). Theory for small mass impact on sandwich panels, Mechanics of sandwich structures. Proc. EUROMECH 360. Vautrin Ed. Dordrecht: Kluwer;231-238.

C.6 Wiggenraad JFM, Greenhalgh ES, Olsson R (2002). Design and analysis of stiffened composite panels for damage resistance and tolerance. Paper 81208. Fifth World Congr Comput Mech, Vienna. Eds: Mang HA, Rammerstorfer FG, Eberhardsteiner J.

C.7 Olsson R (2003). Energy criterion for dent growth in sandwich panels. Proc. 6th Int. Conf. on Sandwich Structures. CRC Press, Boca Raton;399-409.

C.8 Olsson R (2006). Initial study of impact damage stiffness by full field optical method, Comptest 2006, Porto;54-55.

C.9 Sztefek P, Olsson R (2007). Inverse method for stiffness determination of impact damage in composites. Paper 101. Proc. SEM Annual Conf. and Exposition 2007. Springfield 2007.

C.10 Olsson R (2007). Experimental validation of delamination criterion for small mass impact, Paper TuHM1-07. 16th Int Conf on Composite Materials. Kyoto.

C.11 Olsson R (2007). On improper foundation models for the DCB specimen. Paper ThBA1-01. 16th Int Conf on Composite Materials. Kyoto.

C.12 Cernicchi A, Galvanetto U, Olsson R (2007). Virtual testing of composite motorcycle helmets. 6th Int Sympos Impact Engineering. Daejeon, South Korea.

C.13 Olsson R (2008). Simplified model for large mass impact and delamination onset in curved laminates. Paper 0545. 13th European Conf on Composite Materials. Stockholm.

C.14 Sztefek P, Olsson R (2008). Inverse method for compressive stiffness determination of impact damage in composites. Paper 0502. 13th European Conf on Composite Materials. Stockholm.

C.15 Craven R, Olsson R, Falzon BG (2008). Micromechanical finite element study of impact damaged fractured fibres under compression. Paper 0508. 13th European Conf on Composite Materials. Stockholm.

C.16 Sztefek P, Olsson R (2008). An inverse method for determining the stiffness of impact damage in laminate composites. Comptest 2008. Dayton, Ohio.

C.17 Nguyen SN, Greenhalgh ES, Olsson R, Iannucci I, Curtis PT (2009). Improved aircraft tire and stone models for runway debris lofting simulations. AIAA Paper 2009-2444. 50th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference. Palm Springs, CA.

C.18 Olsson R (2009). Analytical model for small mass impact with delamination growth. Paper F7:1. 17th Int Conf on Composite Materials. Edinburgh.

C.19 Apruzzese P, Falzon BG, Olsson R (2009) Modelling the postbuckling behaviour of impacted composite structures. Paper F7:11. 17th Int Conf on Composite Materials. Edinburgh.

C.20 Juntikka R, Olsson R (2009). Experimental and modelling study of hail impact on composite plates. Paper F7:4. 17th Int Conf on Composite Materials. Edinburgh.

C.21 Olsson R, Juntikka R (2010). Validation of analytical model for hail impact on composite laminates. Paper 137. 14th European Conf on Composite Materials. Budapest.

C.22 Olsson R, Juntikka R, Asp LE (2010). Modelling and testing of hail impact on aircraft composite laminates. In: Proceedings of the 1st EASN Workshop on Aerostructures, Paris.

C.23 Olsson R, Juntikka R, Asp LE (2011). High velocity hail impact on composite laminates – modelling and testing. Workshop on Dynamic Failure of Composites and Sandwich Structures. Toulouse, France.

C.24 Olsson R, Marklund E, Asp LE, Jansson N (2011). Strength of NCF composite bundles under biaxial stress. 32nd Risø International Symposium on Materials Science. Risø, Denmark, September 2011.

C.25 Olsson R (2012). Modelling of impact damage zones in composite laminates for strength after impact. In Structures and Materials Conference - Impact and damage tolerance in composite materials. Royal Aeronautical Society. London.

C.26 Olsson R (2012). Transverse in-situ strength – theory and experiments. The 23rd Annual International SICOMP Conference. Piteå, Sweden.

C.27 Nguyen SN, Greenhalgh ES, Graham M, Francis A, Olsson R (2012). Methodology for predicting the threat of runway debris impact to large transport aircraft. AIAA paper AIAA-2012-1377. 53rd AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conf. Honolulu, Hawaii.

C.28 Olsson R, Marklund E, Jansson N (2012). Testing of carbon/epoxy NCF strength under mixed in-plane loading. Paper 1102. 15th European Conf on Composite Materials. Venice.

C.29 Asp LE, Marklund E, Varna J, Olsson R (2012). Multiscale modelling of non-crimp fabric composites. Proc ASME 2012 Int Mech Engng Congr & Expos, IMECE2012. Houston.

C.30 Grauers L, Olsson R, Gutkin R (2013). Damage mechanisms in progressive crushing of corrugated NCF laminates. Paper S10T4. Deformation and Fracture of Composites (DFC-12), Cambridge.

C.31 Olsson R, Block TB (2013). Criteria for skin rupture and core shear cracking during impact on sandwich panels. 19th Int Conf on Composite Materials. Montreal:3638-3645.

C.32 Olsson R, Marklund E, Jansson N (2013). Strength of non-crimp fabric composites under multiaxial loads – modelling and testing. Paper 139. CEAS2013, Linköping.

C.33 Marklund E, Asp LE, Olsson R, Ohlsson F, Varna J (2013). Experimental investigation and modeling of thin band woven composites. TEXCOMP-11. Leuven.

C.34 Bru T, Olsson R, Vyas G (2015). A Iosipescu sandwich specimen for prevention of premature failure. COMPTEST 2015. Madrid.

C.35 Olsson R, André A, Hellström P (2015). Analytical modelling and FE simulation of impact response and damage growth in a thin-ply laminate. Paper 5217-2. 20th Int Conf on Composite Materials. Copenhagen.

C.36 Olsson R, Ahlqvist F, André A, Hellström P, Alvarez E, González EV, Sainz de Aja JR, de la Escalera FM (2016). Testing and modelling of tension after impact of a thin ply textile composite. MON-3_SEV_3.07-10. 17th European Conf on Composite Materials. Munich.

C.37 Costa S, Gutkin R, Olsson R (2016). Finite implementation of a model for longitudinal compressive damage growth with friction. TUE-4_STO_3.02-01. 17th European Conf on Composite Materials. Munich.

C.38 Costa S, Gutkin R, Olsson R (2016). Implementation and mesh objectivity of a model for fibre kinking in composites. 29th Nordic Seminar on Computational Mechanics (NSCM29). Chalmers, Gothenburg, Sweden.

C.39 Bru T, Olsson R, Vyas GM, Costa S (2017). Validation of a novel model for the compressive response of FRP: Experiments with different fibre orientations. Paper 3104-4. 21st Int Conf on Composite Materials. Xi'an, China.

C.40 Costa S, Portugal A, Olsson R, Vyas G, Bru T (2017). Validation of a novel model for the compressive response of FRP: Numerical simulation. Paper P1104-47. 21st Int Conf on Composite Materials. Xi'an, China.

1.2.4 Reports

R.1 Olsson R (1990). Pilot study of the dynamical impact response of a composite plate. FFA TN 1990-27. The Aeron Res Inst of Sweden, Bromma.

R.2 Olsson R (1990). Mode I interlaminar fracture toughness of carbon/PEEK - Participation in an international round robin program. FFA TN 1990-41. The Aeron Res Inst of Sweden, Bromma.

R.3 Olsson R (1991). Experimental verification of a theory for the impact response of composite plates, FFA TN 1991–17. The Aeron Res Inst of Sweden, Bromma.

R.4 Olsson R (1992). Factors influencing the interlaminar fracture toughness and its evaluation in composites. FFA TN 1991-34. The Aeron Res Inst of Sweden, Bromma.

R.5 Olsson R, Nilsson S (1992). Effect of contact loads on stresses in plates. FFAP H-1177. The Aeron Res Inst of Sweden, Bromma.

R.6 Olsson R (1993). Impact response of composite laminates – a guide to closed form solutions. FFA TN 1992–33. The Aeron Res Inst of Sweden, Bromma.

R.7 Olsson R (1994). Simplified theory for contact indentation of sandwich panels. SM Thesis. Aero. and Astro. Dept., MIT (also FFA TN 1994-33, FFA, Sweden).

R.8 Jarlås R, Olsson R (1997). Analysis of equipment used for small mass impact experiments. FFAP H-1291. The Aeron Res Inst of Sweden, Bromma.

R.9 Olsson R (1997). A summary of FFA:s contribution to NFFP-project 2.36 on effects of impact on laminates. FFAP H-1339. The Aeron Res Inst of Sweden, Bromma.

R.10 Olsson R (1998). DAMOCLES Task 1 deliverable: A survey of impact conditions relevant in aircraft structures, FFAP H-1353. The Aeron Res Inst of Sweden, Bromma.

R.11 Olsson R (1998). Methodology for predicting the residual strength of impacted sandwich panels, FFA TN 1997-09. The Aeron Res Inst of Sweden, Bromma.

R.12 Olsson R (1999). A review of impact experiments at FFA during 1986 to 1998, FFA TN 1999-08. Bromma: The Aeron Res Inst of Sweden, Bromma.

R.13 Olsson R (1999) Impact and damage tolerance of composites - status and future work at FFA, FFA TN 1999-77. The Aeron Res Inst of Sweden, Bromma.

R.14 Olsson R (2000). Large mass impact tests on rectangular composite laminates with various layups, FFA TN 2000-01. The Aeron Res Inst of Sweden, Bromma.

R.15 Olsson R (2000). Analytical prediction of large mass impact damage in composite laminates (SWECOMP Deliverable D2.2-1). FFAP H-1423. The Aeron Res Inst of Sweden, Bromma.

R.16 Olsson R (2000). A summary of the FFA contribution to GARTEUR AG22. FFAP H-1432. The Aeron Res Inst of Sweden, Bromma.

R.17 Olsson R, Asp L (2000). GARTEUR AG22 - Design methodology for damage tolerant wing panels. FFAP H-1433. The Aeron Res Inst of Sweden, Bromma.

R.18 Olsson R, Paget C (2001). Response and damage due to medium velocity impact on composites. FOI-R--0235--SE. Swedish Defence Research Agency, Stockholm.

R.19 Zeng L, Olsson R (2002). Buckling-induced delamination analysis of composite laminates with soft inclusion. FOI-R-0412-SE. Swedish Defence Research Agency, Stockholm.

R.20 Olsson R (2006). Analytical predictions of large mass impact response and damage. Ch 2.6 in GARTEUR AG-28: Impact damage and repair of composite structures. Ed. Falzon B. GARTEUR TP – 155. GARTEUR: 25-27

R.21 Olsson R (2007). Impact testing and static testing of plywood beams. TR07/15/C. The Composites Centre. Imperial College, London.

R.22 Olsson R (2009). A survey of models for in-plane damage growth in composites. CR08-100. Swerea SICOMP AB, Mölndal.

R.23 Olsson R (2009). Final assessment of the validity of chosen design criteria. CR09-008 (VITAL_WP4.2_REP_SICOMP_R4.2.5E_1.0). Swerea SICOMP AB, Mölndal.

R.24 Olsson R (2009). Increasing damage tolerance of ToeOFF orthoses. CR09-035. Swerea SICOMP AB, Mölndal.

R.25 Juntikka R, André A, Olsson R (2009). Modelling ice and polymer ball impact on composite plates. CR09-055. Swerea SICOMP AB, Mölndal.

R.26 Olsson R (2009). Use of notch failure criteria for composite laminates. CR09-079. Swerea SICOMP AB, Mölndal.

R.27 André A, Olsson R (2010). Simulation of in-plane damage growth in Abaqus/Explicit. TR09-011. Swerea SICOMP AB, Mölndal.

R.28 Olsson R (2010). A survey of test methods for multiaxial and out-of-plane strength of composite laminates. TR10-005. Swerea SICOMP AB, Mölndal.

R.29 Olsson R (2010). Low and medium velocity impact as a cause of failure in polymer matrix composites. CR10-039. Swerea SICOMP AB, Mölndal.

R.30 Olsson R, Juntikka R (2010). Considerations for choice of material in Next Generation ToeOFF. CR10-074. Swerea SICOMP AB, Mölndal.

R.31 Olsson R (2010). Impact resistance of composite float – preliminary analysis. CR10-091. Swerea SICOMP AB, Mölndal.

R.32 Olsson R (2011). Strength of composite laminates after impact: background and recommendations. TR11-001. Swerea SICOMP AB, Mölndal.

R.33 Olsson R, Marklund E (2011). Strength testing of neat resin and NCF bundles under uniaxial and mixed in-plane loading. CR11-106. Swerea SICOMP AB, Mölndal.

R.34 Olsson R (2011). Initial analysis of simplified tests for initiation of matrix cracking in fibre reinforced pipes. TR11-011. Swerea SICOMP AB, Mölndal.

R.35 Olsson R (2012). In-situ strength of composite plies – theory and experiments. TR12-001. Swerea SICOMP AB, Mölndal.

R.36 Nilsson S, Olsson R (2012). COMPOSIMPA: Tests of mechanical properties. TR12-004. Swerea SICOMP AB, Mölndal.

R.37 Olsson R, Alann André (2012). COMPOSIMPA: Impact tests. TR12-010. Swerea SICOMP AB, Mölndal.

R.38 Olsson R (2012). Criteria for onset of skin rupture and core shear cracking during impact on sandwich panels. CR12-125. Swerea SICOMP AB, Mölndal.

R.39 Olsson R (2013). Analytical models for impact response and damage growth in sandwich panels. CR13-011. Swerea SICOMP AB, Mölndal.

R.40 Olsson R, Marklund E (2013). Out-of-plane testing of carbon/epoxy NCF laminates. CR13-063. Swerea SICOMP AB, Mölndal.

R.41 Olsson R, Marklund E (2013). Summary of NFFP ReFACT Work Package 1. CR13-066. Swerea SICOMP AB, Mölndal.

R.42 Olsson R (2013). Executive summary of the work in NFFP ReFACT. CR13-067. Swerea SICOMP AB, Mölndal.

R.43 Olsson R (2014). Analytical prediction of damage due to large mass impact on thin ply composites. TR14-010. Swerea SICOMP AB, Mölndal.

R.44 Olsson R (2014). Manual for writing Swerea SICOMP reports. TR14-012. Swerea SICOMP AB, Mölndal.

R.45 Olsson R, Ahlqvist F, Loukil M (2015). Compression after indentation of small NCF/foam sandwich panels. CR15-026. Swerea SICOMP AB, Mölndal.

R.46 Ahlqvist F, Olsson R (2015) Tension after impact of thin ply laminates. CR15-039. Swerea SICOMP AB, Mölndal.

R.47 Olsson R (2015). Analytical criteria for delamination growth. CR15-056. Swerea SICOMP AB, Mölndal.

R.48 Olsson R (2015). Analytical damage tolerance criteria for sandwich panels. CR15-065. Swerea SICOMP AB, Mölndal.

R.49 Olsson R, Gutkin R (2015). Validation of models for impact and compression after impact of sandwich panels. CR15-068. Swerea SICOMP AB, Mölndal.