



# TENTATIVE : Particulate emissions from brake wear

## **Background**

Emissions from vehicles are originating from different sources. As technology advances for Exhaust Aftertreatment (including particulate filters), tailpipe emissions are getting lower. For pure electrical vehicles the tailpipe emissions are zero by definition. However, wear particulate emissions from tyres and brake are still significant and future legislation will include the reduction of wear particles too. Thus it is important to know the mechanisms for brake particulate emissions in order to develop the technology to reduce these emissions.

## **Objectives**

- Through literature and documentation review the current state of the art within emissions from brakes
- Conduct experiments in a brake test bench to collect time-resolved data at relevant operating conditions
- Develop a simple engineering model to predict brake wear particulate emissions
- Evaluate the model in a real-world application (transient test cycle)
- Propose directions of future research

## **Activities**

- Literature study
- Experiments in brake test rig
- Model development



## **Miscellaneous**

- Scope of work is suitable for two students
- Experiments to be performed at VCC, Gothenburg
- Examiner at Chalmers: Jonas Sjöblom, M2 Combustion and propulsion systems
- Volvo Cars contact: Staffan Johansson, 93820 Steering & Brake, [staffan.johansson.3@volvocars.com](mailto:staffan.johansson.3@volvocars.com)