Inertia Brake Dynamometer Dust Particle Measurement

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ABSTRACT - INERTIA BRAKE DYNAMOMETER DUST PARTICLE MEASUREMENT

Environmental pollution from vehicle brake systems has become a concern. The traditional focus is on fine dust caused from engine exhaust gas, especially from diesel engines. However, in order to obtain a complete picture of this potential hazard, small particle brake dust emissions also shall be considered in future.

To do this, we will measure the number of break dust particles emitted from an inertia brake dynamometer while running a popular test procedure like the AK-Master, WLTP or AK-Bremsstaub. We will compare particle numbers relative to the specific test section of the test cycle of AK-Master. As the main focus of this investigation will be the reproducibility of the measurement results, we will perform the AK-Master procedure twice, first at TU Ilmenau and afterwards at Horiba in Darmstadt.

In comparison to the dynamometer results, we will provide an outlook regarding vehicle measurements under real driving conditions (RDE).