Special Issue

Study of Brake Wear Particle Emission

Message from the Guest Editor

The traffic-generated PM emissions are classified into exhaust PM emissions and non-exhaust PM emissions. Due to the strict regulations for vehicle exhaust emissions and the rapid growth of electric vehicle (EV) sales, the contribution of non-exhaust PM emissions to the total traffic-generated PM emissions will reach 90% by the end of the current decade. Brake wear particle emissions are a primary source of non-exhaust traffic-generated emissions. In November 2022, the European Commission proposed new Euro 7 standards to reduce the brake wear particle emissions so that the limit for M1 (passenger cars) and N1 (light commercial vehicles) vehicles is 7 mg/kg/vehicle until 2035, and 3 mg/km/vehicle afterwards. However, there are many knowledge gaps regarding brake wear particle emissions. The Special Issue aims at improving the knowledge of brake wear particle emissions including the tribological formation mechanisms, PM measurement methods, adverse health effects of brake wear particles, and brake wear mitigation approaches. A special focus is given to the brake wear particle emissions from EVs. Both experimental and simulation studies are welcome.

Guest Editor

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Message from the Editor-in-Chief

Continued developments in instrumentation and modeling have driven atmospheric science to become increasingly more complex with a deeper understanding of concepts, mechanisms, and interactions. This is the field that innovation built and it has led to a better appreciation for the complexity with atmosphere. Human life is intertwined in this complexity as we strive to better understand our atmosphere. Climate change is constantly stretching the limits of our thinking and forcing new ideas and concepts to be played out. Welcome to the Anthropocene!

Editor-in-Chief

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