

## Preparation and Properties of NO Degradation Coating with Synergistic Effect of Self-cleaning and Photocatalysis

A WO<sub>3</sub>/TiO<sub>2</sub> nanorod superamphiphobic coating was prepared by a spraying method to study its synergistic effect towards self-cleaning and photocatalytic nitric oxide (NO) degradation properties. After the coating was contaminated by various pollutants the surface was easily restored to the state prior to contamination simply by washing it with a small amount of water, which indicated a good self-cleaning surface property. In addition, the coating also demonstrated excellent NO degradation effect and degradation stability. A series of indoor aggressive abrasion and weathering tests and a 30-day outdoor weathering test were implemented to further investigate the durability of this coating. The results indicated that the coating not only demonstrated good outdoor durability but also a synergistic effect of self-cleaning and photocatalytic NO degradation. The mechanism of NO degradation of the photocatalytic superamphiphobic coating was also studied.

### Yanhui Niu

Chang'an University,  
China

### Biography

Yanhui Niu is a Distinguished Professor of Chang'an University and the Deputy Director of Engineering Research Center of Pavement of Ministry of Education. She received her PhD degree in Chemistry from Texas A & M University. Dr. Niu received numerous recognitions. Her research interests include functional composite materials, sustainable and recycled materials, smart materials, and their applications in transportation.

[niuyh@chd.edu.cn](mailto:niuyh@chd.edu.cn)