



4th International Nanotechnology Conference & Expo

April 3-4, 2019 Philadelphia, USA

Nanoscale Visual of Low Friction about Doped Hydrogen Carbon Films

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Hydrogen carbon films with low or superlow friction are attracted much attention due to energy save and long life service for machines. We will show here several doped (B, N, S, etc.) hydrogen carbon films with low to superlow friction coefficient at open atmosphere or vacuum. With low content of dopanted of heterogeneous elements, amorphous hydrogen carbon films are easier to form carbon nanostructure wrapped with polymer-like structure, which help to low the adhesion and friction force, endow the amorphous hydrogen carbon films superlow friction properties.

Biography:

Bin Zhang has received his Dr. Degree in 2011 and has taken researcher assistant position at the same year. From 2018, he advanced to be a professor. He focuses on thin films growth via plasma methods, including PVD and PECVD. He also works on friction and lubrication of films and their applications on industrial machines. He has published 43 SCI papers.