

S2.1.3 INTERACTION OF NANOPARTICLES WITH A FIBER MEDIA

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Aerosols have different sizes from nanometers to tens of micrometers. Nanoparticles are particles with at least one dimension less than 100 nm. The interaction of nanoparticles with a surface affects many applications such as nanoelectronics, heterogeneous catalysts surface coating, surface metallization and surface cleaning. This paper focuses on the characteristics and behaviors of nanoparticles and their interactions with the surfaces of filter media. This research aims at the gap between small particle and molecules filtration. Energy conservation and critical velocity of small nanoparticles were quantified in this work. Plastic deformation, gas friction and thermal loss were considered as contributors to energy loss. Moreover, adhesion energy with respect to spherical surface of fibrous media were investigated, and the results will be presented here.