

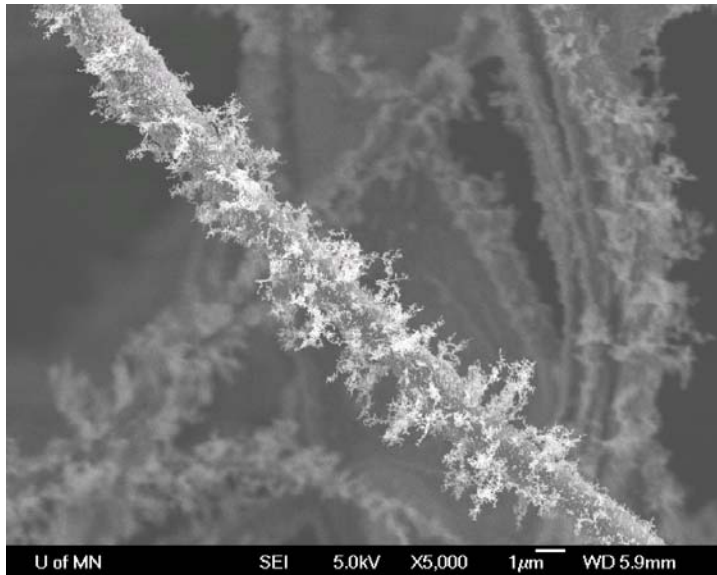
Filtration of Nanoparticle Agglomerates

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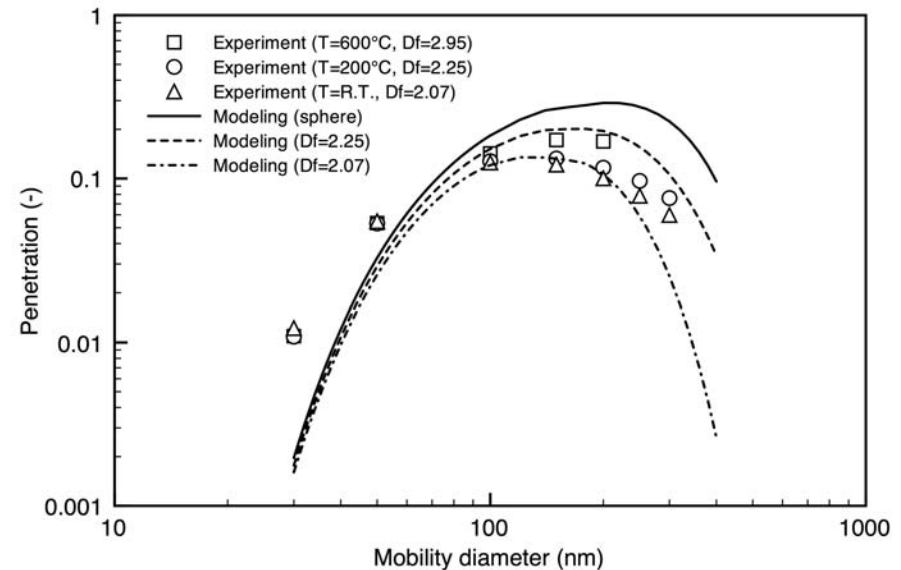
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NNIN Facilities utilized: Characterization Facility & Particle Technology Laboratory

- Experiments for nanoparticle agglomerates filtration by fibrous filters
 - ◆ Controllable morphology from loose agglomerates to spheres
 - ◆ Particle concentrations up and down-stream of the filter measured



- MAJOR OBSERVATIONS
 - ◆ Penetration of agglomerates is lower than that of spheres of the same mobility diameter
 - ◆ Larger interception length of agglomerates is the reason



- Publications
 - ◆ Kim, S-C, J. Wang, J, Emery, M., Shin, W-G, Mullholand, G. and Pui, D.Y.H., 2009 Structural Property Effect of Nanoparticle Agglomerates on Particle Penetration through Fibrous Filter, *Aerosol Science & Technology*, 43, 344 – 355, 2009.