Mathematical Modeling and Computation for Moisture Transport in Fibrous Materials

W. Sun[1]

Abstract: In this talk, we present our recent work on moisture transport model in fibrous clothing assemblies in a one dimensional setting. We formulate this problem as multi-phase flows in fibrous porous media with phase change. The model is based on a previous study with significant modification to take into account the air resistance to moisture transport as well as the capillary effect on liquid water motion. Asymptotic analysis and numerical results are both given.

[1] Department of Mathematics
City University of Hong Kong
maweiw@math.cityu.edu.hk