

Abstract Submitted
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Small Angle Neutron Scattering (SANS) Study of Perfluorinated Ionomer Membrane under In-situ Vapor Sorption¹ MAN-HO KIM, NIST, Center for Neutron Research, Gaithersburg, MD 20899; MSE, University of Maryland, College Park, MD 20742, CHARLES J. GLINKA, NIST, Center for Neutron Research, Gaithersburg, MD 20899 — SANS measurements were made on both solvent cast and extruded perfluorinated ionomer membranes as a function of humidity. The specially designed in-situ vapor sorption apparatus changes the relative humidity rapidly, allowing SANS measurements to follow initial structural changes with sorption time. The two types of membranes show significant structural differences in the position and breadth of their characteristic SANS features even for the same equivalent weight (EW=1100). The structure and diffusion of water vapor into the membrane at room temperature will be discussed.

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