1106-VL-1026 **Jason Karl Davis*** (jdavis8@ucmerced.edu), 5200 N Lake Rd, Merced, CA 95343, and **Suzanne S Sindi** (ssindi@ucmerced.edu), 5200 N Lake Rd, Merced, CA 95343. *Solution of a Recurrence Relation Governing Prion Aggregation and Fragmentation.*

Prion proteins are responsible for a variety of neurodegenerative diseases in mammals such as Creutzfeldt-Jakob disease in humans and "mad-cow diease" (Bovine Spongiform Encephalopathy or BSE) in cattle. We provide the standard mathematical derivation of the nucleated polymerization model (Masel et al, 1999), but then solve the recurrence relation exactly at steady-state using a generating function rather than the standard approach of resorting to a continuous approximation and solving the corresponding PDE. We then demonstrate the uniform convergence of the exact solution to the continuous relaxation in the large, average aggregate-size limit. (Received September 09, 2014)