

**A bi-monomeric nonlinear Becker-Döring-type system to capture oscillatory aggregation kinetics in prion dynamics**

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In order to understand the appearance of oscillations observed in protein aggregation experiments, we propose, motivate and analyse mathematically bi-monomeric nonlinear Becker-Döring-type systems of finite and infinite size. We show that both specialities of these systems, two different monomers and nonlinear polymer depolymerisation are require (and on the other hand sufficient) to model sustained though damped oscillations.