On the Discrete Decay-Fragmentation Equation with Bounded Coagulation Rate

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The decay equation models an important real life phenomenon in which a substance can be removed from an aggregate of particles by chemical reaction, evaporation or dissolution. The decay process can be combined with the fragmentation and/or coagulation process. We examine the discrete decay-fragmentation equation with uniformly bounded coagulation rates. We prove the existence and uniqueness of physically meaningful solutions to this equation using the theory of semigroups of operators.

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