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The Discrete Unbounded Coagulation-Fragmentation Equation with Growth, Decay and Sedimentation

We study the discrete coagulation–fragmentation models with growth, decay and sedimentation. We demonstrate the existence and uniqueness of classical global solutions to these models using the theory of semigroups of operators. Theoretical conclusions are supported by numerical simulations. [1], [2].

References

[1] J. Banasiak, L.O. Joel, and S. Shindin, *Analysis and simulations of the discrete fragmentation equation with decay*, Mathematical Methods in the Applied Sciences (2017).

[2] ———, *Long term dynamics of the discrete growth-decay-fragmentation equation*, eprint arXiv:1801.06486, 01/2018, 2018.