

LIST OF PUBLICATIONS

PUBLICATIONS IN INTERNATIONAL JOURNALS

1. Saha, J.; Kumar, J.; Bueck, A.: Numerical Solutions for Multidimensional Fragmentation Problems Using Finite Volume Methods. Accepted for publication in *Kinetics and Related Models*.
2. Saha, J.; Kumar, J.; Heinrich S.: On the approximate solutions of fragmentation equations. *Proceedings of the Royal Society A* 474 (2018).
3. Paul, J.; Kumar, J.: An existence-uniqueness result for the pure binary collisional breakage equation. Accepted for publication in *Mathematical Methods in the Applied Sciences* 41 (2018) 2715–2732.
4. Singh, M.; Kaur, G.; Kumar, J.; Beer, T.; Nopens, I.: A comparative study of numerical approximations for solving Smoluchowski coagulation equation. Accepted for publication in *Brazilian Journal of Chemical Engineering*.
5. Das, N.; Saha, J., Kumar, J.: An application of semigroup theory to the pure fragmentation equation. *The Journal of Analysis* (2017), DOI 10.1007/s41478-017-0045-6.
6. Singh, R.; Das, N.; Kumar, J.: The optimal modified variational iteration method for the Lane-Emden equations with Neumann and Robin boundary conditions. *The European Physical Journal Plus* 132 (2017), 251.
7. Kaur, G.; Kumar, J.; Heinrich, S.: A weighted finite volume scheme for multivariate aggregation population balance equation. *Computers & Chemical Engineering* 101 (2017), 1-10.
8. Saha, J.; Kumar, J.; Heinrich, S.: A volume-consistent discrete formulation of particle breakage equation. *Computers & Chemical Engineering* 97 (2017), 147–160.
9. Singh, M.; Kumar, J.; Bueck, A.; Tsotsas, E.: An improved and efficient finite volume scheme for bivariate aggregation population balance equation. *Journal of Computational and Applied Mathematics* 308 (2016), 83-97.
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17. Singh, R.; Wazwaz, A.M.; Kumar, J.: An efficient semi-numerical technique for solving nonlinear singular boundary value problems arising in various physical models. *International Journal of Computer Mathematics* 93 (2016), 1330–1346.
18. Saha, J.; Kumar, J.: The singular coagulation equation with multiple fragmentation. *Journal of Applied Mathematics and Physics (ZAMP)* 66 (2015), 919-941.
19. Singh, R.; Saha, J.; Kumar, J.: Adomian decomposition method for solving fragmentation and aggregation population balance equations. *Journal of Applied Mathematics and Computing* 48 (2015), 265-292.
20. Hussain, M.; Kumar, J.; Tsotsas, E.: Modeling aggregation kinetics of fluidized bed spray agglomeration for porous particles. *Powder Technology* 270, Part B, (2015), 584–591.
21. Hussain, M.; Kumar, J.; Tsotsas, E.: A new framework for population balance modeling of spray fluidized bed agglomeration. *Particuology* 19 (2105), 141-154.
22. Singh, R.; Nelakanti, G.; Kumar, J.: Approximate solution of two-point boundary value problems using Adomian decomposition method with Green's function. *Proceedings of the National Academy of Sciences, India Section A: Physical Sciences* 85 (2015), 51-61.
23. Kumar, R.; Kumar, J.; Warnecke, G.: Convergence analysis of a finite volume scheme. *Kinetic and Related Models (KRM)* 7 (2014), 713-737.
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- Gokhale, Y.P.; Kumar, J.; Hintz W.; Warnecke G.; Tomas, J. (Eds.: Bertram A., Tomas J.). *Chapter: Population balance modelling for agglomeration and disintegration of nanoparticles*, Micro-Macro-Interactions in Structured Media and Particle Systems, Springer-Verlag Berlin Heidelberg, 2008, pages 11, ISBN 978-3-540-85714-3.
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CONFERENCE/WORKSHOP PROCEEDINGS

- Hussain, M., Kumar, J., Tsotsas, E.: *Micro-Macro Transition of Population Balances in Fluidized Bed Granulation*. Procedia Engineering 102, 2015, Pages 1399-1407.
- Singh, M., Kumar, J., Bück, A.: *A volume conserving discrete formulation of aggregation population balance equation on non-uniform meshes*. Proceeding of the Vienna Conference-2015 (IFAC Publisher) doi:10.1016/j.ifacol.2015.05.008.
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- Kumar, J.; Peglow, M.; Warnecke, G.; Heinrich, S.; Tsotsas, E.; Moerl, L.: *Numerical solutions of a two-dimensional population balance equation for aggregation.* Proceedings of the 5th World Congress on Particle Technology, Orlando/Florida, USA, April 23-27, 2006, 10 pages, Particle Design: Formation and Processing, Session 155 - Modelling of Particle Formation Processes - I.
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