EXISTENCE AND UNIQUENESS OF THE SOLUTION FOR THE COAGULATION-FRAGMENTATION EQUATION OF WATER DROPS IN FALL[*]

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Abstract

We consider the integro-differential equation, which describes the fall and the coagulation-fragmentation process of the droplets. By constructing the approximate solutions, which are constituted by families of piece-wise analytic functions, and verifying their convergence, we prove the existence and the uniqueness of the local solution.

MSC: 35R09, 35L60.

keywords: Integro-differential equations, coagulation-fragmentation of drops, fall of drops, analytic solution.