

第151回 広島数理解析セミナー (2011年度)

Hiroshima Mathematical Analysis Seminar No.151

日時 : 10月28日(金) 16:30 ~ 17:30

場所 : 広島大学理学部 B707

講師 : Emmanuel Chasseigne 氏 (University of Tours)

題目 : A nonlocal one phase Stefan problem that develops mushy regions

要旨 : We study a nonlocal version of the Stefan problem which develops mushy regions, even if they were not present initially, a model which can be of interest at the mesoscopic scale. The model involves a convolution with a compactly supported kernel. The created mushy regions have the size of the support of this kernel. If the kernel is suitably rescaled, such regions disappear and the solution converges to the usual local version of the one-phase Stefan problem. We prove that the model is well posed, and give several qualitative properties. Moreover, the long-time behaviour is identified by means of a nonlocal mesa, solving an obstacle problem.

広島数理解析セミナー幹事

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