

MODELING MULTISCALE PHENOMENA BY A FINITE ELEMENT METHOD

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Modeling multiscale phenomena generally neglects details at the small scales. Only larger scales are left to be simulated under the effect of the small scales.

In this talk we present a Petrov-Galerkin method based on enriching standard finite element spaces with, what we term, multiscale functions. The method is applied to reaction diffusion equations and numerical results are presented.