

First Joint Meeting Brazil Italy of Mathematics

Special Session: Name of the session

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Title: An approach to spatial spread in thin structures

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Abstract: In this talk we discuss an approach to considerer spatial spread in N -dimensional thin structures. We introduce equations with nonlocal dispersal and defined in tight domains contrasting it with its corresponding local diffusion equation with Neumaan and Dirichlet boundary conditions. Here the thin structure effect is modeled by an ϵ -parameter family of open sets which squeezes to a lower dimension open set as $\epsilon \rightarrow 0$. The asymptotic behavior of the solutions is analyzed and the results are compared with classical situations to elliptic equations in thin domains.