

Seminario de Análisis Numérico y Modelamiento Matemático SANMoMa - Estudiantes 01-2026



A Nitsche-based FEM with Grad-Div stabilization for the velocity-pressure formulation of the Brinkman problem.

Miércoles 25 de marzo, 12:30 -13:30 horas

Auditorio Prof. Hermann Alder Weller



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Abstract: In this talk, we present the analysis of a Nitsche-based finite element method for the Brinkman equations written in terms of velocity and pressure. We provide a new discrete variational formulation that enables the weak imposition of mixed and non-standard boundary conditions, through a consistent and stable Nitsche method. We present the well-posedness of the discrete problem using the Babuska-Brezzi theory. In addition, we derive a priori error estimates for the discrete scheme. Finally, we present some numerical experiments to validate the theoretical results.