

Robust PDE-Constrained Inversion Algorithms and Applications to Subsurface Imaging for Retrieval of 3D Archaeological Structures

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Abstract: Archaeologists are facing several difficulties in selecting excavation sites. Classical procedures involving excavation and subsequent aerial exposure of findings are problematic because they are slow and expensive. An alternative is image guided excavation. In this talk I will present PDE-constrained optimization algorithms in which geophysical measurements are processed by multimodal inverse parameter estimation problems for electromagnetic (Helmholtz) scattering.

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