



CNR-IAC
Istituto
per le Applicazioni
del Calcolo

Seminari Generali IAC 2024

AVVISO DI SEMINARIO

Luogo Area di Ricerca Napoli1
Via Pietro Castellino, 111, Napoli
Aula Conferenze Vaccaro

Data e ora Martedì 3 dicembre 2024 ore 14.30

Speaker Francesco Solombrino – Università degli Studi di Napoli «Federico II»

Titolo A fractional approach to strain-gradient plasticity: beyond core-radius of discrete dislocations

Abstract

In this talk we derive a strain-gradient theory for plasticity as the Γ -limit of discrete dislocation fractional energies, without the introduction of a core-radius. By using the finite horizon fractional gradient introduced by Bellido, Cueto, and Mora-Corral of 2023, we consider a nonlocal model of semi-discrete dislocations, in which the stored elastic energy is computed via the fractional gradient of order $1 - \alpha$. As α goes to 0, we show that suitably rescaled energies Γ -converge to the macroscopic strain-gradient model of Garroni, Leoni, and Ponsiglione of 2010.

Streaming <https://www.youtube.com/watch?v=0upn2elmPiM>

Link <https://www.iac.cnr.it/seminari-general-iac-2024>

Comitato organizzatore Nicola Apollonio, Roberta Bianchini, Claudia Capone, Giuliana Ramella



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