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Enriching VEM with singular functions for crack propagation

ABSTRACT:
We discuss how to enrich standard virtual element spaces by means of singular functions. This is useful to improve the convergence of the method while approximating solutions to the Poisson and linear elasticity problems in presence of corners and cracks. We combine the method with a crack tracking algorithm.
This is joint work with Edoardo Artioli (University of Modena and Reggio-Emilia).