

Title : **Extended / Generalized Finite Element Method**

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Topic :

The partition of unity and its extension and variants has considerably increased the capabilities of the finite element method. In particular, it has provided a mechanism to obtain good convergence while introducing knowledge of the solution into the approximation and/or embed arbitrary discontinuities. This expansion is now commonly referred to as the Extended or Generalized Finite Element Method.

The goal of the mini-symposium is to examine progress in theory and applications of the Extended / Generalized finite element methods. These works may be focused on the development of the methods or their use in complex applications.

More precisely, we welcome submissions on any of the following sub-topics :

- enrichment strategies (analytical, numerical, ...)
- coupling with the level set method to locate and evolve surfaces of discontinuity.
- a posteriori error estimation
- robustness aspects (integration, conditioning, ...).
- coupling with multi-scale approaches
- applications to fracture mechanics (in 2D, 3D, plates, shells, ...)
- coupling with image correlation
- emerging applications explored with the methods, for example
 - geomechanics
 - inverse problems
 - piezoelectric materials
 - bio-mechanics
 - fabrication processes (tool machining, grinding, ...).
- Industrial applications.