

THE EMBEDDED DISCRETE FRACTURES NUMERICAL SIMULATION BY THE FINITE ELEMENT METHOD

D. Nikiforov
North-Eastern Federal University

In this work we consider the embedded discrete fracture model (EDFM) for solution of the filtration problem in fractured porous media by the finite element method. The main idea of this model is that the thickness of the fractures is so small that the pressure on it practically does not change and we can reduce the spatial order of the fractures. Structured n D and unstructured $(n-1)$ D grids are independently generated for matrix and fractures, respectively. The embedded fracture modeling strategy avoids the usual requirement that the discretization of the fracture domain conforms to the discretization of the matrix surrounding the fractures.