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Short title: A new finite volume formulation for diffusion problems in anisotropic non-homogeneous media.

MR Number: 1500040

Primary classification: 65N06

Secondary classification(s): 65N06

Review text:

The authors provide us with a new finite volume method. This method is based on two facts. The first fact consists the discretization of the domain and the second fact consists the finite volume approximation of the equation to be solved. The discretization of the domain is performed thanks to a collection of grid cells control volumes, defined by the corners points. Each cell is defined by a grid point, preferably equal to the cell centroid. The elements of finite volume space are piecewise linear on each triangle which joins the two cell corners of the edge with the cell point. It is first computed the partial derivatives of the element of the finite volume space, and then a flux approximation is performed in such way it is locally conservative.