

Pedras, Marcos H. J.; de Lemos, Marcelo J. S.

Macroscopic turbulence modeling for incompressible flow through undeformable porous media. (English) [Zbl 1014.76087](#)

Int. J. Heat Mass Transfer 44, No. 6, 1081-1093 (2001).

The authors present a mathematical model for turbulent flow in porous medium by adopting the method of volume integration of equations for turbulent flow in clear fluid. To account for the presence of porous structure, an additional terms with additional constant is added. The method for determining this constant consists in using integrated parameters for different porosity and Reynolds number. The authors compare the simulation of flow in the entrance region of homogeneous isotropic porous medium with numerical results available in the literature. The comparison shows good agreement.

Reviewer: [S.C.Rajvanshi \(Chandigarh\)](#)

MSC:

[76S05](#) Flows in porous media; filtration; seepage
[76F60](#) k - ε modeling in turbulence
[80A20](#) Heat and mass transfer, heat flow (MSC2010)

Cited in **2** Reviews
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[incompressible flow](#); [turbulent flow](#); [method of volume integration](#); [additional constant](#); [entrance region](#); [homogeneous isotropic porous medium](#)

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