

AN OPEN FOAM SOLVER FOR MAGNETOSTATICS OF DISCONTINUOUS MEDIA

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Abstract. We present an OpenFOAM solver for the numerical computation of magnetic field distributions in discontinuous media. The magnetic field is expressed in terms of the vector potential, which permits the calculation of fields generated by both magnetized media and electric currents. New discrete discontinuity boundary conditions were implemented in order to obtain accurate results of the magnetic field at the interfaces. Numerical experiments show that the formulation gives good results in terms of magnitude and direction of the magnetic field.