NUMERICAL SOLUTION OF AXISYMMETRIC RADIATIVE TRANSFER PROBLEMS IN ARBITRARY DOMAINS USING THE CHARACTERISTIC METHOD

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ABSTRACT. A modification of the characteristic method for the solution of axisymmetric radiative transfer problems in arbitrary (axisymmetric) domains is proposed. Both diffuse and specular reflective boundaries are considered. The accuracy of the method is demonstrated by example solutions for different test problems. As an illustration, the application of the method to the simulation of radiative-conductive heat transfer in growing semi-transparent crystal from a melt by Czohralski method is considered.