

# **A MEAN FLUX DISCRETE ORDINATES INTERPOLATION SCHEME FOR GENERAL CO-ORDINATES**

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**ABSTRACT.** A new interpolation scheme for the discrete ordinates method is presented. The intensity in the cell centre is found by interpolating between a mean outgoing intensity and a mean value of the incoming intensities. This method is suitable for general co-ordinates and avoids oscillations observed when using the diamond difference scheme. In a two-dimensional rectangular test case the new method reaches better results than the standard diamond difference and step scheme and shows almost no dependence on the grid size. The different interpolation methods are further tested at an idealized box-shaped furnace. Due to a fine grid resolution the computed radiative source terms and wall heat fluxes are in very good agreement with the analytic solution for all methods. Furthermore, the model is successfully applied to a coal-fired utility boiler.