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Interval identification of thermal parameters for convection-diffusion heat transfer problems

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Abstract: This paper presents a numerical method to identify the intervals of thermal parameters for steady state convection-diffusion heat transfer problems when uncertainty of measurement is characterized by the interval. A two step strategy is suggested to estimate the lower and upper bounds of thermal parameters in the terms of central value and radius. A 2D numerical example is provided to verify the proposed approach.

Keywords: interval; identification; uncertainty; estimate; thermal parameters.