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## **Evaluation of Higher-Order Bounded Convection Schemes for Oscillatory Natural Convection of Liquid Metal**

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### **Abstract**

A study on the evaluation of higher-order bounded convection schemes for simulation of oscillatory natural convection of liquid metal in a square cavity is presented. Two higher-order bounded convection schemes, SOUCUP and COPLA are evaluated, together with HYBRID and QUICK, to test their capability for predicting oscillatory natural convection. Calculations are performed for  $Gr=10^7$ ,  $Pr=0.005$  employing  $42*42$  and  $82*82$  nonuniform grids. The COPLA and QUICK schemes are shown to be capable of predicting the oscillatory motion while the HYBRID and SOUCUP schemes are not.