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Turbulent Rayleigh-Benard convection in containers with rectangular wall roughness elements OLGA SHISHKINA, CLAUS WAGNER, DLR - Institute for Aerodynamics and Flow Technology — The work is devoted to numerical investigation of the heat transport in turbulent Rayleigh-Benard convection enhanced by roughness of the heated/cooled plates. The roughness is determined by rectangular obstacles, which are located at the plates and are heated/cooled in the same way as the corresponding plates. Based on the obtained numerical results a theoretical model to predict the heat transport (Nusselt number) in natural convection in enclosed domains with heated/cooled obstacles is developed.

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