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Thermal-Mechanical flow and Heat Transfer of Supercritical Carbon Dioxide

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Abstract

For recent years, from environmental consideration, carbon dioxide becomes more and more popularly used as working fluids in advanced energy conversions. Knowledge on thermal mechanical effects of supercritical and near-critical fluid flow becomes more and more urgent. In the present talk, three thermal mechanical flow and heat transfer are presented, including thermal piston effect, mass piston effect and supercritical non-equilibrium jet. The related flow dynamic and heat transfer are reviewed and furthermore the latest numerical and experimental results are presented.