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Comparison of predictions obtained on an exhaust manifold analysis using conformal and indirect mapped interface

A comparative study of predictions obtainable using the conformal and indirect interfaces for Conjugate Heat Transfer (CHT) analysis in an exhaust manifold was undertaken with a view to ascertain the degree of closeness of certain pre-defined physical quantities. The Indirect Mapped Interface feature has been incorporated in the latest release version (V7.02) of the multidisciplinary engineering simulation tool STAR-CCM+ and enables the use of non-conformal mesh at the interface between solid and fluid domains for CHT simulations. A steady-state analysis was performed for base mesh size values of 2 mm and 4 mm using the RANS k-epsilon turbulence model. Predicted results for the conformal and non-conformal meshes at the two base mesh size values were observed to be in good agreement

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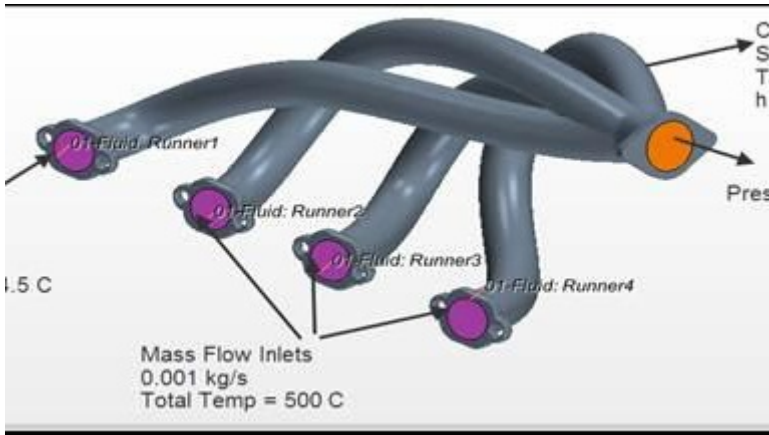
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