Taguette highlights: Move a Step 4

Over this range, compared to smooth-wall DNS data from literature, the RSM showed consistent and satisfactory performance in estimating the velocity and temperature profiles within 2.54% and 4.21%, respectively; leading to the skin friction coefficient and Nusselt number in the smooth channels being predicted very well within 1.94% and 2.03%, respectively. The rough-channel flow study was performed at Re τ

= 240, 360, 540, 720, 1000 and Pr = 1, with computational cells 7.8 times that of the smooth channel to resolve the irregular roughness geometry. Over this range, the Realisable k-ε showed the best performance in estimating the roughness function within 6.85%, while the results of the other models were wider at uncertainty levels of up to 36.9%. Similarly, the Realisable k-ε demonstrated the best performance in estimating the skin friction and Nusselt number in rough channels within 2.76% and 9.50%, respectively, while the performance of the other models was to a wider latitude ranging between 15.62% to 26.34%. In the present study, the Realisable k-ε with enhanced wall treatment showed the best capabilities in capturing the mean flow characteristics of both smooth and rough channels; however, its usage should be approached with caution in flows at higher Reynolds numbers.

RANS models are also discussed for forced convection heat transfer at high Reynolds numbers

Document: Thermofluid_Paper1 **Tags:** Move a Step 4

As a result, the temperature of the hot air adding to that of the solar radiation allows a higher temperature to be obtained on one of the faces of the STEG. On the other hand, the cold air coming out of the vortex tube contributes to obtaining a very low temperature on the other side of the STEG. Thus, thanks to this temperature difference, an electric current is generated while the vehicle is moving. The experimental results obtained

could be compared with those of a validated and published mathematical modeling of the same device.

Document: Thermofluid_Paper2 **Tags:** Move a Step 4

The average lifetimes obtained within one day of preparations were 79 ns, 73 ns and 275 ns for pristine perovskite, IL-I passivated perovskite and IL-Cl passivated perovskite films, respectively.

Document: Thermofluid_Paper3 **Tags:** Move a Step 4

Evacuated tube LFRs with secondary reflectors deflect up to 90% of incident solar radiation, outperforming cavity receivers. In terms of SPDs, promising design areas include the adjustment and optimization of the concentrator, receiver, engine, and tracking system. Stirling receivers demonstrated 90%

effectivity in transferring energy, which is 10% more than Brayton receivers.

Document: Thermofluid_Paper4 **Tags:** Move a Step 4

Results indicate that occasionally, the zeotropic mixtures with higher critical temperatures (but not always) outperform other mixtures under given conditions

Document: Thermofluid_Paper5 **Tags:** Move a Step 4

The results highlighted the significant influence of two key parameters, namely, the mixing chamber diameter (Dm) and the nozzle exit position (NXP), on the ejector's performance. Optimized Dm showed an increase of about 12.5% compared with the baseline geometry.

Document: Thermofluid_Paper6 **Tags:** Move a Step 4

Numerical findings are compared to previously published research using bvp4c in MATLAB programme. The critical solutions of this study are that the Nusselt number outline increased for increasing the value of momentum slip, radiation parameter and thermal slip conditions.

Document: Thermofluid_Paper7 **Tags:** Move a Step 4

The outcomes specify that the tangential velocity and redial velocity decrease for greater values of injection and suction parameters.

Document: Thermofluid_Paper8 **Tags:** Move a Step 4

The findings show a Economic growth

long-term association between CO_2 emissions and other factors. While industrialization and economic expansion Industrial growth

Globalisation

have a large and long-term positive impact on CO_2, globalisation considerably cuts CO_2 emissions.

Document: Thermofluid_Paper9 **Tags:** Move a Step 4

This approach is extended to structurally-adapted metal foam-fluid systems by broadening the pore volume fraction beyond 0.90 – resulting in the quantification of the fluid phase contribution for heat transfer enhancement and the proposition of empirical constants to support models developed by Calmidi & Mahajan [

Document: Thermofluid_Paper10 **Tags:** Move a Step 4