

Thermal optimisation of fin clusters for heatsink purposes

This paper presents a design approach for optimizing the conjugated heat transfer system of heatsinks numerically, using ANSYS-Fluent software. The impacts of different fin shapes and layouts on the system heat transfer and fluid flow parameters, mainly pressure and temperature drops, have been investigated. The design of grooved drop-like shape at 40 degrees angle of attack is found to be the optimal choice for best thermal performance. The results have been verified in comparison to other conjugated heat transfer models, and validated against experimental work in literature.