

Numerical Simulation as an adjunct tool to Thermography

Natteri M Sudharsan
Professor of Mechanical Engineering
Rajalakshmi Engineering College, Chennai.

The use of thermography in various fields of engineering and medicine is quite well known. Analysis and Interpretation of data is done using proprietary software supplied with the imaging device and instrumentation engineers process the digital signal for better amplification of the signal and suppression of noise to better understand the physics of the problem. The thermal signature that is obtained depends on the internal generation of heat as well as fluid flow. Computational fluid dynamics can help in generating a similar pattern by solving the governing equations of continuity, momentum and energy. This would help in better understanding the superficial thermal pattern due to the underlying physics of the flow. An example is that the superficial temperature pattern may be caused by a smaller tumour closer to skin or a larger tumour in the deeper region, thus helping the analyst to better interpret the data.

Submission of Abstract for 1st Quantitative Infrared Thermography Asia Conference (**QIRT-Asia 2015**)