

**Experimental assessment of a new technique for measuring heat transfer coefficients**

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**Abstract**

A novel technique for measuring convective heat transfer coefficients is presented. The proposed steady-state approach can be applied to thermally thin sensors, made of relatively high conductivity material. Unlike the heated-thin-foil method, demanding a uniform heating of the slab, the sample can be externally heated, and the heat input is not required to be known. An experimental assessment of the technique is illustrated, dealing with the measurement of convective heat transfer coefficient distribution onto a thermally thin aluminium slab, subjected to a jet normally impinging on it. Tests are carried out by varying the Reynolds number (ranging from  $2.0 \cdot 10^4$  to  $5.0 \cdot 10^4$ ) and the nozzle-to-plate distance (from 2 to 6 nozzle diameters).

This paper was published in the QIRT Journal 8.1