

## APPLICATION OF MULTISCALE CALCULATION OF HEAT TRANSFER IN ELECTRIC TRANSFORMER WINDING CHANNELS

**Mario A. Storti<sup>a</sup>, Jonathan J. Dorella<sup>a</sup>, Luciano Garelli<sup>a</sup> and Gustavo A. Ríos Rodríguez<sup>a</sup>**

<sup>a</sup>*Centro de Investigación de Métodos Computacionales CIMEC, CONICET-UNL,*  
<http://www.cimec.org.ar>

**Keywords:** Enhanced Heat Transfer, Computational Fluid Dynamics, Vortex Generators

**Abstract.** In a recent article the authors presented a novel approach to compute heat transfer in periodic geometries. In this article an extension of that approach is presented for constant wall heat flux. An application to cooling oil channels in periodic geometries found in the winding of electric transformers of zig-zag type is included.

**Acknowledgements:** The authors acknowledge financing from grants CAI+D-50420150100112LI (UN Litoral), PICT-2015-2904 (FONCyT), EU-MSCA-RISE 823969-BIOTRAFO, PIP 11220150100588CO (CONICET).