Hochschulbibliographie

Autor(en) des Beitrags: Witte, A; Cabrera, A; Polifke, W

Titel des Beitrags: Identification of the Heat Transfer Frequency Response in Pulsating Laminar and Subcritical Flow across a Cylinder

Abstract: The steady-state heat transfer from a cylinder in cross-flow is a prototype problem in thermo-fluidynamics. However, in many applications such as the Rijke tube, the flow may fluctuate. This work analyses the phenomenon combining numerical simulation with system identification. Direct numerical simulation of laminar flow and Large Eddy Simulation at subcritical flow at Reynolds number equal to 3900 are used, respectively. Fluctuations of the inlet velocity in the simulation are excited over a wide range of frequencies. Time series of unsteady heat release and velocity are post-processed to identify dynamic models, which may be represented as transfer functions. They accurately describe the dynamic behavior and can be used for further modelling.

Zeitschriftenstitel: Journal of Physics: Conference Series

Jahr: 2016

Band: 745

Monat: sep

Seiten: 032055

Volltext / DOI: http://doi.org/10.1088/1742-6596/745/3/032055

Print-ISSN: 1742-6588, 1742-6596

Occurences:
- Hochschulbibliographie > 2016 > Fakultäten > Maschinenwesen > Professur für Thermofluidmechanik (Prof. Polifke)
- Einrichtungen > Fakultäten > Fakultät für Maschinenwesen > Institut für Energietechnik > Professur für Thermofluidodynamik (Prof. Polifke) > Publikationen > 2016

entries: