

AUSHANG

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Einladung zum IKET-Kolloquium

Zeit: Dienstag, 19. Juli 2016, 15.00 Uhr

Ort: Kolloquiumsraum des IKET, Campus Nord, Bau 419, Raum 104

Referent: Prof. Sergio Möller, UFRGS – Federal University of Rio Grande do Sul,
Porto Alegre, Brazil

Titel: Some observations on the flow through tube banks by turbulent cross flow

Zusammenfassung:

Banks of tubes or rods are found in the nuclear and process industries. Tube banks are the usual simplification for fluid flow and heat transfer in the study of shell-and-tube heat exchangers. Geometric characterization of a tube bank is made by the tube arrangement and the P/D-ratio, being D the tube diameter and P, the pitch, which is the distance between the centerlines of adjacent cylinders.

In general, fluid flow loads can be classified in static, due to the mean pressure variation. In tube banks with large P/D-ratios, the dynamic loads are mainly associated with the vortex shedding, while for with small aspect ratios, the turbulent flow is usually characterized as broad band turbulence, without a defined shedding frequency.

In this lecture, results from velocity and velocity fluctuation measurements with hot wire technique in tube banks with square and triangular arrangements are presented.

Analysis of the results is made by means of statistical and spectral tools as well as continuous and discrete wavelets and flow visualizations. Finite mixture, Monte Carlo method and symbolic dynamics are some of the tools employed. The presence of bistability is observed in some cases.

gez. T. Schulenberg

Alle auswärtigen Besucher des Kolloquiums werden gebeten, ihren gültigen Personalausweis oder Reisepass mitzubringen.