



Statistical analysis of turbulent positively buoyant jets

P. Dimitriadis and P. Papanicolou

National Technical University of Athens, School of Civil Engineering, Department of Water Resources and Environmental Engineering, Laboratory of Applied Hydraulics

The future aim of this work is to create a statistical model for turbulent positively buoyant jets. For this, a statistical analysis is presented here, for a two-dimensional (2D) spatio-temporal temperature records obtained from tracer concentration measurements on the plane of symmetry of vertical heated jet. Some of the statistical tools used in this analysis are the probability and probability density distributions, energy spectrum, climacogram and Hurst coefficient distribution, autocorrelation and structural functions. Moreover, the above measurements are compared with existing ones from the literature.