

Abstract

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Extreme value distributions for peak pressure and load coefficients

The distributions of peak suction forces in separation regions on a surface-mounted prism are well represented by the Extreme Value Type I (Gumbel) distribution. The distributions of the peak coefficients representing these forces from either laboratory field experiments are obtained either with the method of moment estimators with the analytical Sadek–Simiu analysis. The laboratorybased results are mostly independent of the method used to obtain the distributions. On the other hand, those of the field data obtained with the method of moment estimators are dependent on the scatter of the individual peak coefficients; their distributions are based on peaks obtained over the duration of the number of successive records, while the Sadek–Simiu method is based on the duration of just a single record.