

Modelling of the Bora effects upon the lower layer

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SUMMARY

The Bora is a catabatic, local, changeable wind which greatly differs from other winds. The determination of the Bora regime at specific locations requires extensive investigations of this stochastic phenomenon which include application of the hydraulic theory, computation of the distribution of probabilities and analysis of the Bora mechanism in the lower layer with the objective of identifying essential parameters for the wind load on the structure. The numerical simulation of the Bora was performed according to the second and minute values on the Island of Krk, a suitable location for the development of the Bora turbulence. A specific model was developed for the computation of the density spectrum of the Bora gusts by applying the ARMA method, as the most suitable one for this case.

The results of the spectral analysis of the second-value samples of the Bora gusts show that this natural phenomenon acting on the structures can be characterized as a spectrum of the "white noise".
