Abstract
In some previous research works, the authors have discussed the determination of the actual wind pressure distribution on the surfaces of 3-D irregular buildings of large size [see the papers by Borri and Facchini, In: Proceedings of the 10th International Conference on Wind Engineering, Balkema Publishers, 1995; 8th ASCE Specialty Conference on Probabilistic Mechanics and Structural Reliability, 2000; Structural Dynamics, vol. 1, Balkema Publishers, 1999, p. 3; and by Bartoli et al., In: 4th International Colloquium on Bluff Body Aerodynamics & Applications, 2000]. Owing to the complex shape of the buildings, experimental campaigns in boundary layer wind tunnel (BLWT) are usually carried out, with the aim of determining the dynamic wind pressures: the evaluation of their time and space correlation structure and the characterization of the stochastic properties of pressure fields. The present paper focuses on the computational aspects for determining the actual design loads leading to effects, which are equivalent to the dynamic action, caused by turbulent wind.