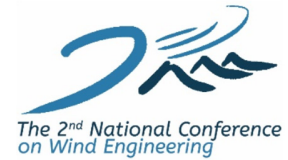


The 2nd National Conference on Wind Engineering
Technical University of Civil Engineering Bucharest
Bucharest, Romania, June 6-7, 2019

<http://2ncwe.ariv.ro/>
<http://ariv.ro/2ndcwe/>



Thunderstorm downbursts: Monitoring, Modelling, Simulation and Loading of Structures

Giovanni Solari

Professor, University of Genoa, Italy

Abstract: Wind actions are crucial for the safety and cost of structures. The wind climatology of Europe and of many parts of the world is dominated by extra-tropical cyclones and by thunderstorm outflows. Thunderstorms are frequent phenomena that cause wind speeds and wind-induced damage often much greater than those of extra-tropical cyclones. This gave rise to an impressive amount of research despite which, however, there is not yet a model for thunderstorms and their loading on structures like that developed for cyclones in the early 1960s. This happens because the complexity of thunderstorms makes it difficult to formulate realistic and simple models, their short duration and small size make available data poor, there is a persisting great gap between research in wind engineering and in atmospheric sciences.