



Severe Bora Wind

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Bora is a gusty downslope wind that blows at the eastern Adriatic coast, roughly N Mediterranean, from the NE quadrant with sustained speeds between $5\text{--}20\text{ ms}^{-1}$, its gusts surpassing $50\text{--}70\text{ ms}^{-1}$ in the lee of the coastal mountains. Similar bora-like flows occur elsewhere, provided that flow transcriticality occurs. It has been studied at the NE coast more than at the central and SE Adriatic coast (the latter bora appears as more complex but less frequent than its NE counterpart). Current efforts to study bora have gradually moved toward progressively smaller spatio-temporal scales and turbulence. A tentative result, obtained by using hotwire anemometer with sampling frequency of 10^4 Hz , suggests that the inertial dissipation method provides an accurate estimate of the bora TKE dissipation rate in the surface layer, at least for moderate wind speeds, $O(10\text{ ms}^{-1})$.

Known occasional occurrence of pulsations and rotors is further enriched by secondary low-level jets (LLJs) that are up to a few tens of kilometers long and several kilometers apart (primary LLJs and wakes relate to the mountain main passes and peaks). Preliminary results on contrasting deep and shallow bora events reveal sub-mesoscale structures that have not previously been reported in bora research. For example, spatial structures of $O(1\text{ km})$ may appear further offshore in the convective marine ABL more than 50 km in the lee of the coastal mountains.

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Thursday, 4 August 2016, 3:30 PM
Refreshments 3:15 PM
NCAR-Foothills Laboratory
3450 Mitchell Lane
Bldg 2 Main Auditorium, Room 1022