Geophysical Research Abstracts Vol. 12, EGU2010-15541, 2010 EGU General Assembly 2010 © Author(s) 2010



The role of scaling tools for characterizing small-scale rainfall

M.I.P. de Lima (1,2), M.F.E.S. Coelho (3), J.L.M.P. de Lima (1,4)

(1) IMAR – Marine and Environmental Research Centre, Portugal, (2) Department of Forest Resources, ESAC/Polytechnic Institute of Coimbra, Portugal (iplima@esac.pt), (3) Institute of Meteorology, Portugal, (4) Department of Civil Engineering, University of Coimbra, Portugal

The characterization of short-term rainfall is important for many hydrological and engineering applications, although usually the lack of significant data constitutes a problem both to designer and researcher for identifying the signature of rain at a given location. The understanding of the rainfall structure and dynamics at a variety of scales can lead to a better characterization of this process at the small scales. This can be accomplished in a scaling framework where different techniques can assist us understanding the temporal structure of rain and enable the convenient exploration of the invariance of properties across scales. This work is dedicated to discussing the results of using such an approach for studying rain, using short-term rainfall from different origins and resolutions, pointing out some methodological strengths and weaknesses, and their impact on quantifying rain.