



Listening to raindrops 2000 meters underwater

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Deep water acoustical measurements of rainfall are compared to high resolution ground radar observations for the first time. The open sea measurements of underwater ambient sound were made from a sub-surface mooring near Methoni, Greece. The acoustical measurements were at 60, 200, 1000 and 2000 m depths. Simultaneous ground-based polarimetric X-band radar observations were made over the acoustic mooring. One of the advantages of the acoustical measurements is that the listening area, an effective "catchment" area, is proportional to the depth of the hydrophone. This feature allows high temporal resolution and a spatial averaging coverage comparable to a radar sampling volume. Comparisons show acoustic detection of rain events and storm structure that are in agreement with the radar observations. Results from the comparison between the underwater sound pressure level at different depths and the observed-radar reflectivities will be presented.