



Underwater and radar rainfall measurements

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Measurements of underwater ambient sound were made from a sub-surface mooring near Methoni, Greece at 60, 200, 1000 and 2000 m depths. Simultaneous high resolution ground-based polarimetric X-band radar observations were made over the mooring. The acoustic measurements are compared with radar reflectivity observations and rainfall estimates. The radar rainfall estimates are based on polarimetric algorithm being evaluated with a nearby dense gauge network and a 2-D video disdrometer. Comparisons show acoustic detection of rain events and storm structure that are in agreement with the radar observations. With increasing depth of the underwater gauge, the rain detection area changes. Whether the detection area increases or decreases depends on the structure of the storm and the associated average sound level that might be above or below the threshold for rainfall detection.