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A TRMM-Calibrated infrared technique for rainfall estimation: application on rain events over eastern Mediterranean

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Abstract. The aim is to evaluate the use of a satellite infrared (IR) technique for estimating rainfall over the eastern Mediterranean. The Convective-Stratiform Technique (CST), calibrated by coincident, physically retrieved rain rates from the Tropical Rainfall Measuring Mission (TRMM) Precipitation Radar (PR), is applied over the Eastern Mediterranean for four rain events during the six month period of October 2004 to March 2005. Estimates from this technique are verified over a rain gauge network for different time scales. Results show that PR observations can be applied to improve IR-based techniques significantly in the conditions of a regional scale area by selecting adequate calibration areas and periods. They reveal, however, the limitations of infrared remote sensing techniques, originally developed for tropical areas, when applied to precipitation retrievals in mid-latitudes.

Full Article in PDF (PDF, 1931 KB)

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