



Errors estimate in radar rainfall retrieval

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Quality control is a challenging task of the actual research in radar meteorology. The knowledge of the radar datum reliability is necessary, in order to associate a value of uncertainty to an indirect measure, and is useful mainly in operative applications, like as data assimilation and radar data composition. In particular, it is interesting to establish the error rate due to each source factor, in order to determine the correction priority and which error is negligible respect to the other. In this work, a review of the principal sources of errors in radar rain estimate is presented. Particular attention is devoted to the estimate of error rate due to the consequences of super- and sub-refraction. The study shows how this uncertainty can reach not negligible values, even if clutter is not present, because of a change in the observed volume and in the power density distribution.