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Investigating clouds in Romania: One year of observations at a REXDAN remote sensing station

Mirela Voiculescu[a*], Daniel Constantin[a], Adrian Rosu[a], Iulian Alin Rosu[a,c], and Marius Mihai Cazacu[b]

[a] *University Dunarea de Jos of Galati, Romania*
[b] *"Gheorghe Asachi" Technical University of Iasi, Romania*
[c] *Faculty of Physics, "Alexandru Ioan Cuza" University of Iasi, 700506 Iasi, Romania*

***Corresponding author e-mail**: Mirela.Voiculescu@ugal.ro

A new cloud remote sensing station has been set up last year in Galati, SE of Romania, part of the REXDAN – UGAL research center. The station is equipped with three instruments, which started to work synergistically as a cloud observation platform in the beginning of February 2022: cloud radar (RPG, dual polarization, FMCW, operating at 94 GHz), multichannel microwave radiometer (RPG HAPTRO) and ceilometer (LUFFT backscatter lidar). Data from this new cloud monitoring station, which is part of the REXDAN research center, is fed to CLOUDNET. All three instruments are mounted on a large open terrace at the third floor of the building hosting the instruments, i.e. about 10 m height (40 m altitude ASL). We present here observations of clouds, vertical temperature profiles, boundary layer, acquired with these new instruments during 2022. A statistics of total number of hourly observations of full cloud versus clear sky is built, which is then compared with previous ERA-5 hourly data for the same site and season, and with existing models.

Keywords: clouds, remote sensing

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