



Problems encountered with Ka-band Mira cloud radar at Rado Bucharest

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CCRES/CLU Autumn Workshop, Evora, 22 October 2025

Short introduction

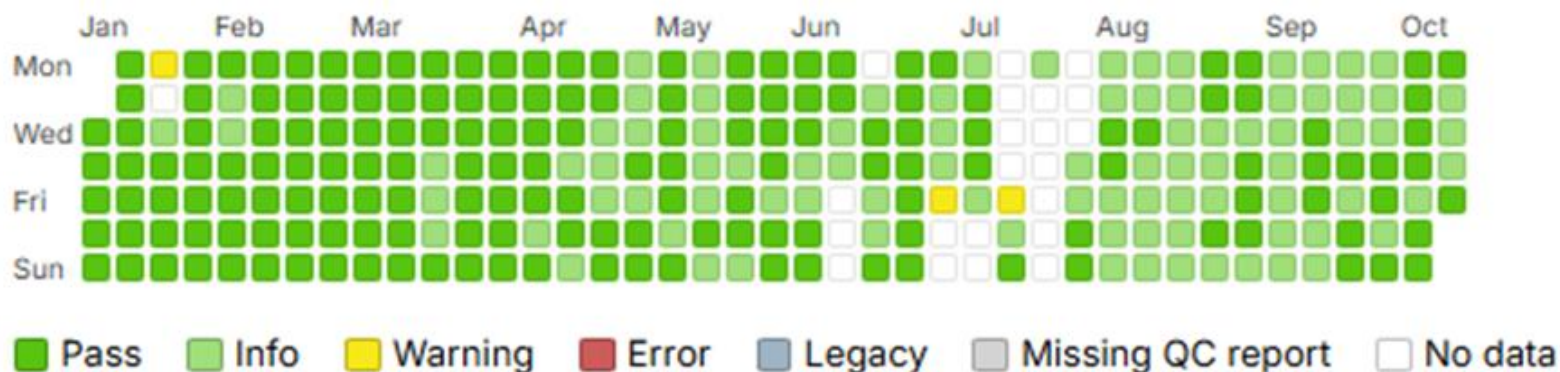


- RADO Bucharest, Romania, 6 km South of Bucharest periphery, preurban area
- MARS site since 2020; all necessary instrumentation
- Pilot site for initial labelling; now in stage 1a

History of magnetron problems MIRA

- MIRA started to take regular measurements: **13.06.2020**
- **26.10.2021**- the 30 kW Magnetron transmitter failed- was sent to be repaired and a new one was installed in **2022**
- **10.06.2024** the new magnetron failed-was replaced with the one repaired in 2021(the original one)- really soon magnetron aging have been noticed
- **5.06.2025** problems started again

Product quality / availability – Radar 2025



[Cloudnet.fmi.fi](https://cloudnet.fmi.fi)

Details 2025

- **We have encountered several days in June** 05.06.2025; 24.06.2025 and 26.06.2025 when the radar stopped measuring

We have restarted; sometimes we have tried several time in a day.

This frequent switching on and off is not good for the magnetron.

- First possible problem detected by Matthias from Metek- **AC unit** (the one linked with the radar) not working properly
- Several things were checked

Drains of the AC were blocked- after fixing this the radar started to work again.

Next weekend- in July 2025

- The radar switched off because the temperature measured close to the radar electronics (TempAir) reached the threshold for of 37 C, but it was not because of the overheating due to AC this time.
- “Something is wrong with the transmitter which makes **the magnetrons age faster than in the other radars.**”

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The co channel receiver has lost about 2.5 dB sensitivity since 23.04.2025 05:23- more likely that this happened due to the transmitter problems

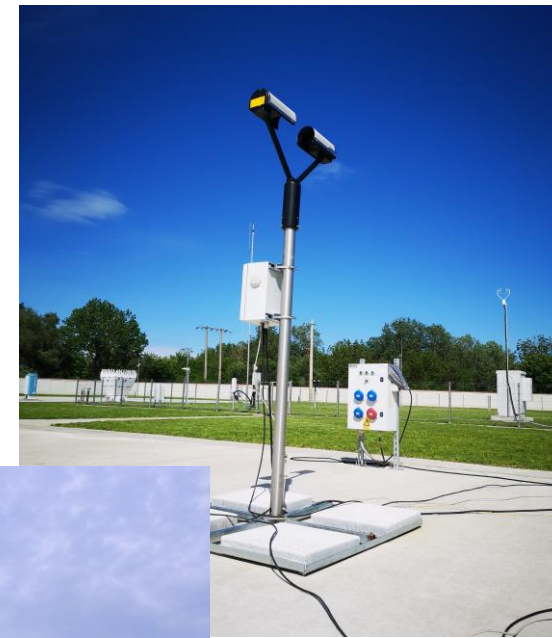
Antena drain blocked –dirt and dust ; in September 2025

Update 14.10.2025- the magnetron ...died

On 20.10.2025 was sent to Metek to be investigated

News

- Disdrometer associated with ESA RPG cloud radar
 - is going to be installed again at our site
- Micro Rain Radar MRR-2 @ Metek
 - Data available since January 2022
- Calibration campaign Romania 2026
 - Rado Bucharest, Cluj and Galati
 - Mid January –August 2025
 - Schedule of the timing-ongoing





Thank you !
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