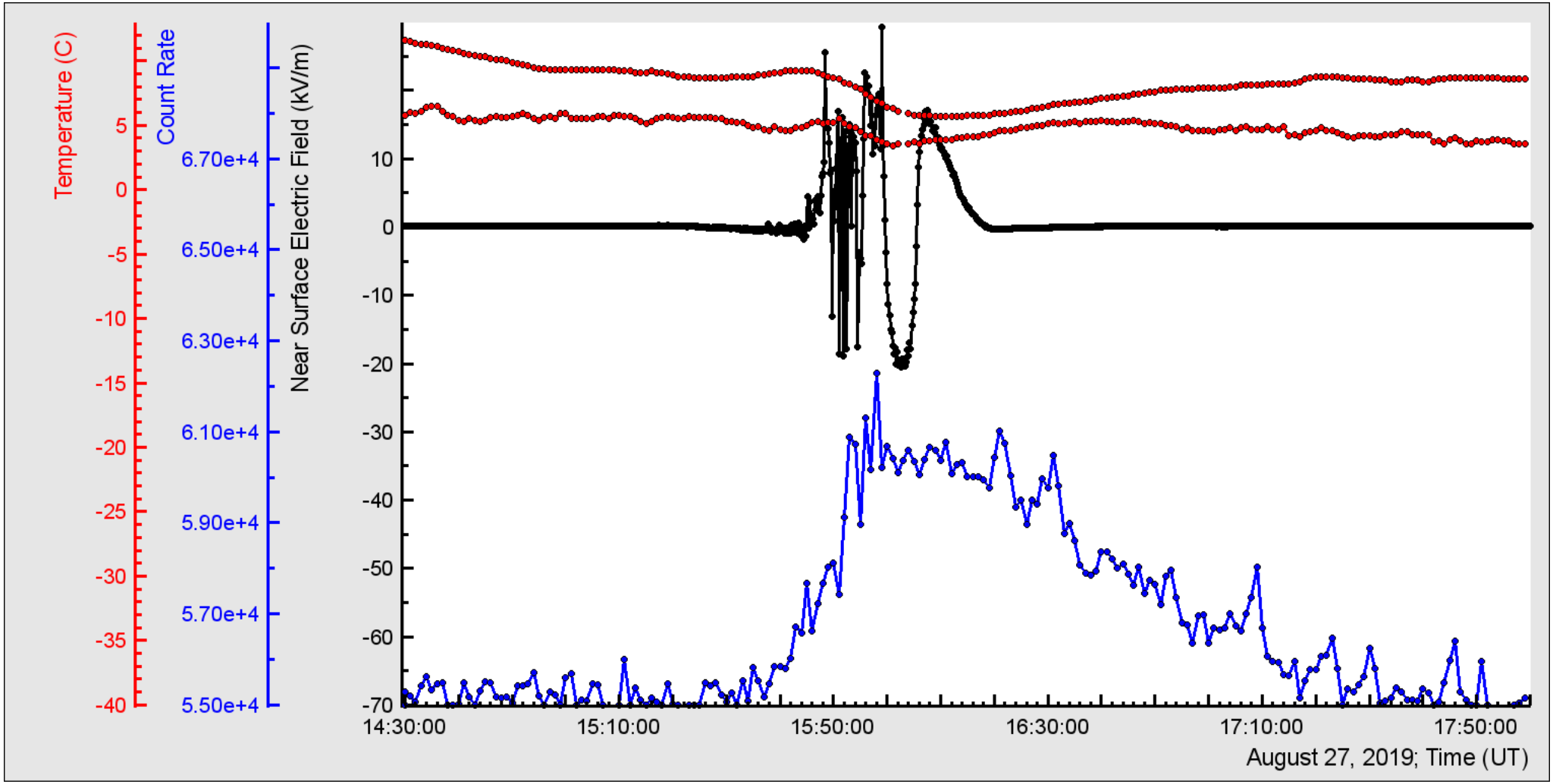
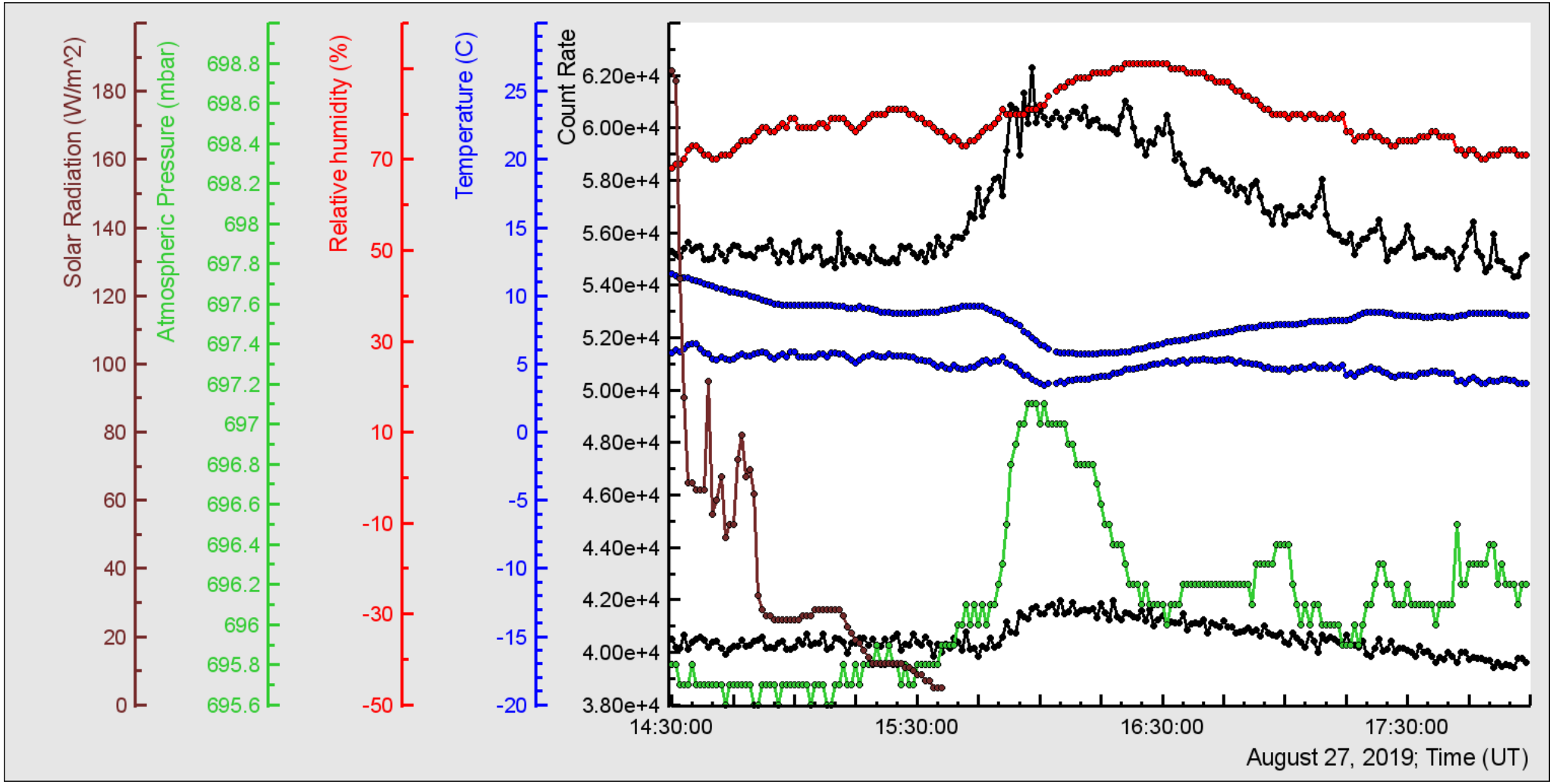
Evening, 27 August TGE: NaI 1 and MAKET EFM



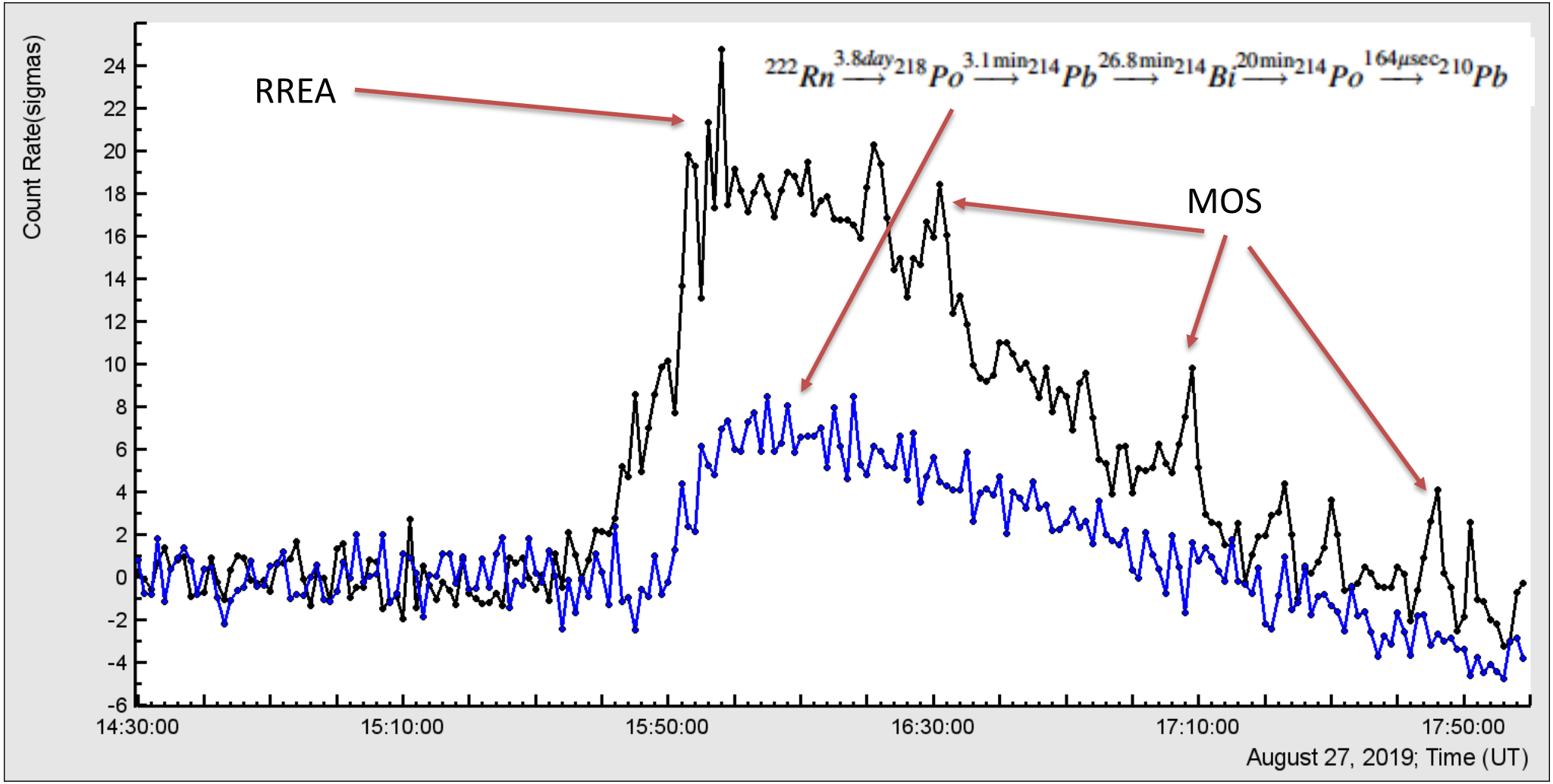
Black clouds appear and initiate TGE and flash!

NaI N1 and N4 (lead above) count rates.

On TGE maximum distance to cloud's base was (5.58-3.53)*122~250m; atmospheric pressure jumped ~1 mbar; Re was ~ 81%.The spikes in NAI 1 count rate at 15:53-15:58, 16:22, 16:31, 17:10,17:23, 17:30, 17:46, 17:51 can be explained by radiation from the RREA; smoother behavior of the NaI 4 count rate with closed by lead bricks top can be explained by uniform radiation of the Rn-22 progenies lifted to atmosphere by the emerged electric field. The delay of TGE start registered by 2 NaI detectors 15:49 – 15:17=12 minutes is explained by time needed by radon emanation to reach the atmospheric heights and radiate gamma rays (mostly Pb-214 and Bi-)214. The half-live of TGE flux ~35 minutes is consistent with half-live of these isotopes.

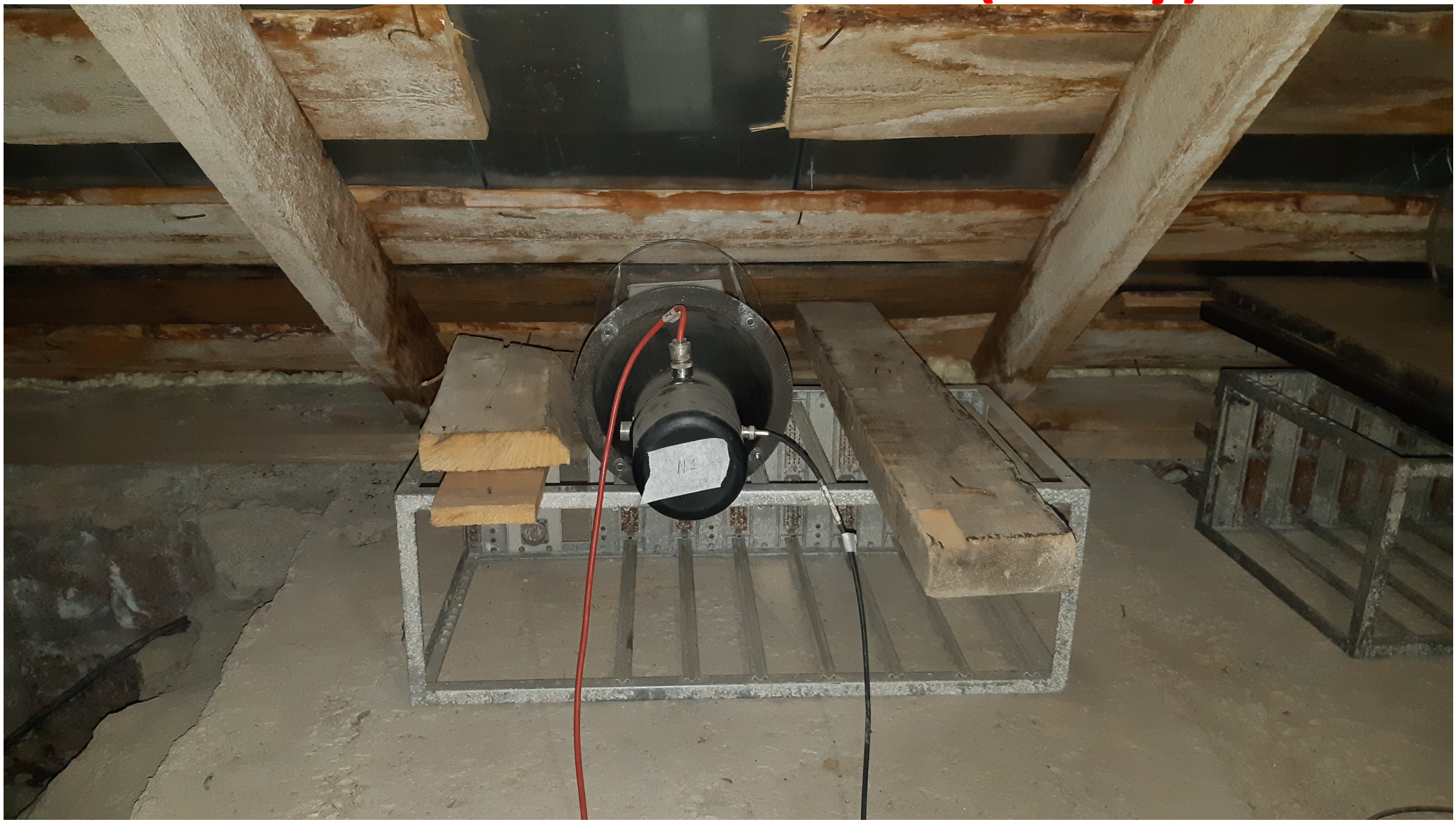


Comparison of TGE registered by NAI 1 and 4 in number of sigmas

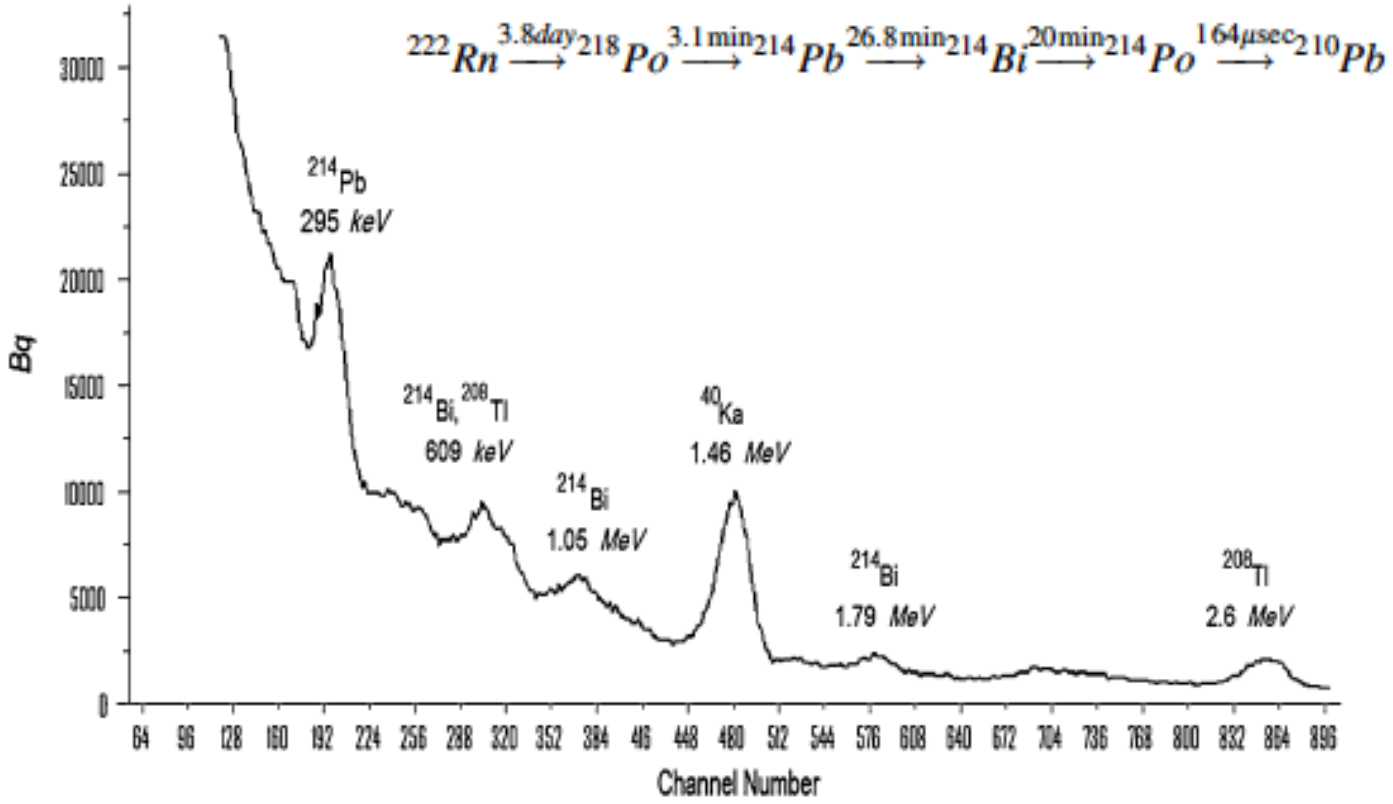


NaI 4, covered by lead on the top: no vertical gamma rays from RREA and MOS can enter it; only declined diffuse gamma rays originated from Rn progenies and lifted by the electric field to atmosphere can enter from the sides and be counted!

NaI N1 open from all sides, top and bottom. Can register RREA, MOS and flux from the bottom (if any)



Half live time of 222Rn progenies coincides with TGE measurements!



Opposite to that 222Rn with its much longer half-life 222Ra = 3.8 day disperse into the whole atmosphere populating it with progenies from the decay chain:
Owing to their longer half-life 214Pb and 214Bi are the most abundant radon progenies in the atmosphere. The solid radon progenies become airborne and immediately attach to the dust particles, aerosols and water droplets existing in the atmosphere. These particles undergo intensive convection aligning its concentration in the atmosphere (Kumar et al. 1999).