

Updates about GRBAlpha

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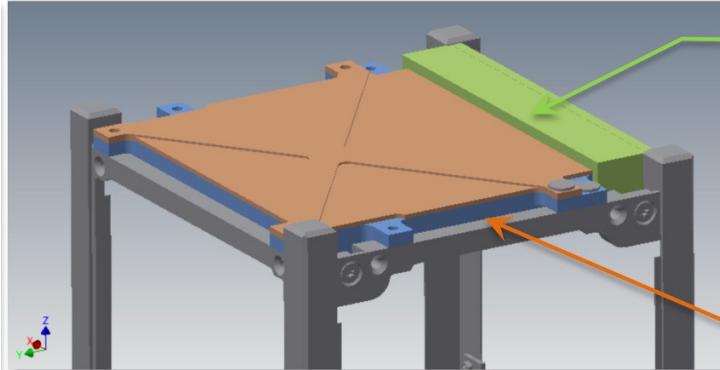
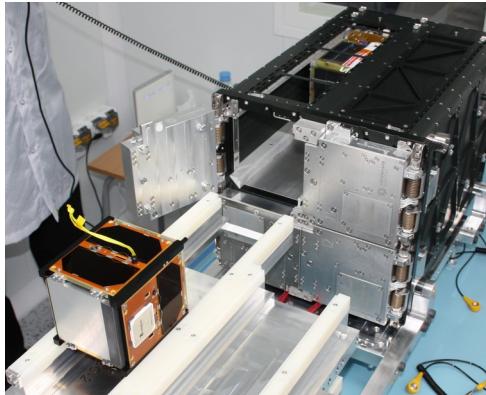
Masanori Ohno, András Pál, Norbert Werner, Hiromitsu Takahashi, László Mészáros and several others...

M U N I
S C I



GRBAlpha

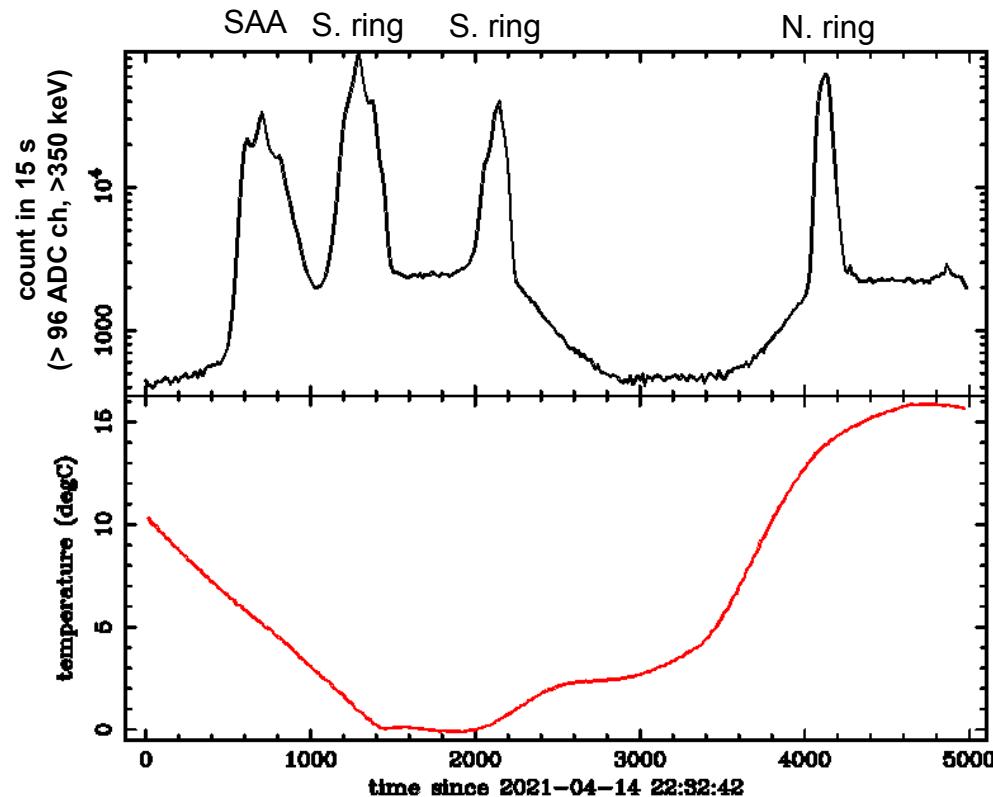
<https://grbalpha.konkoly.hu/>



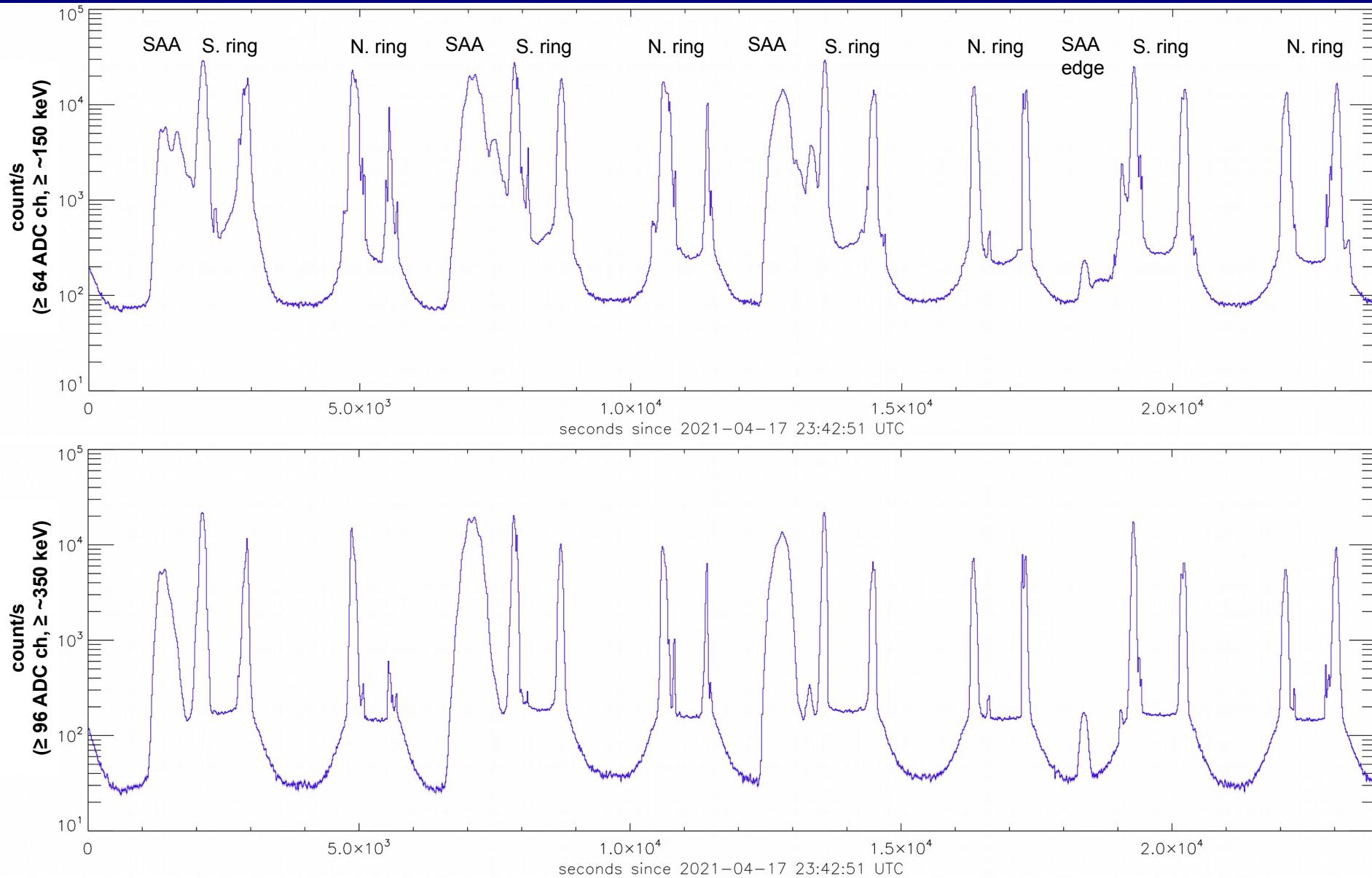
2.5mm Pb shield only around the MPPC to reduce the radiation dose

75x75x5mm³ CsI scintillator
Enclosed by 1mm Al casing

- 1-U platform but the same concept to be used for CAMELOT, launched 2021/03/22 to SSO at 550 km
- eff. area =
- ~50 cm² @ 100 keV

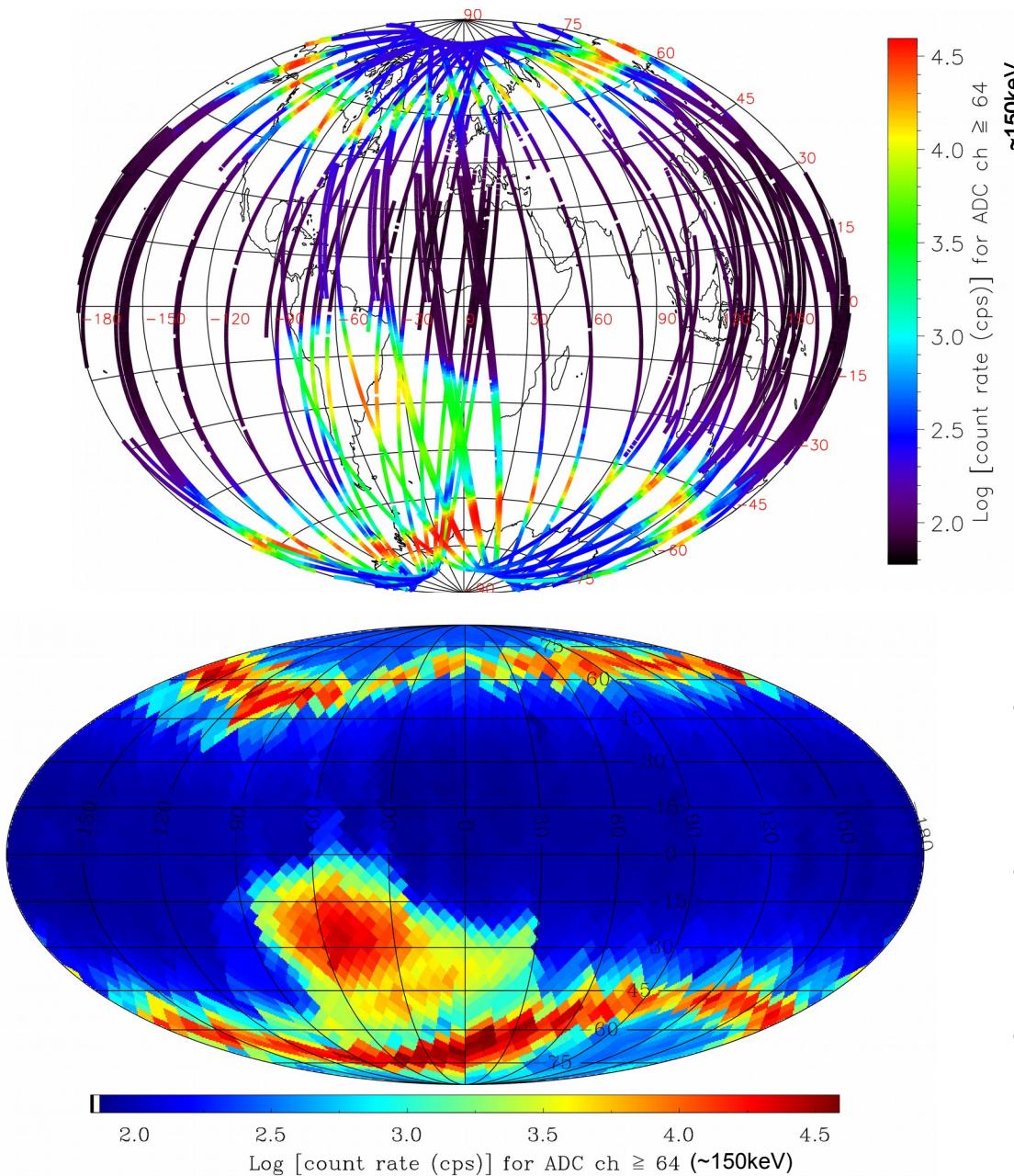


4-orbits background



- count rate for $E > \sim 40$ keV = ~ 200 - 250 cnt/s at latitude $\sim 37^\circ$
- Geant4 simulations ([Galgócz + 2021](#)) for CAMELOT and after scaling to the GRBAlpha detector size predicted background rate outside SAA and outside polar regions 180 cnt/s (for $E > 20$ keV and near equator)

Background map



- satellite tracks with 4 s and 15s time resolution background measurements
- interpolation of 15 s and 4 s time resolution measurements plotted with HEALPix tessellation
- plan to use it as on board map to control data taking and in future possibly to control rate trigger
- such background variation will be important for HERMES detector on board of SpiRIT

Low energy threshold degradation

