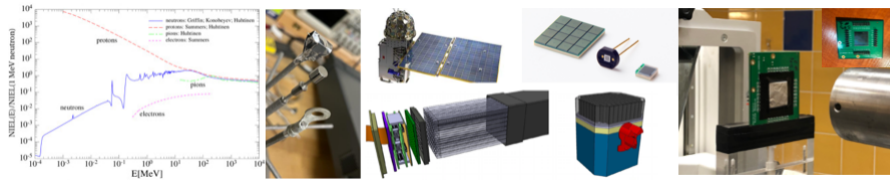


# SiPM Radiation: Quantifying Light for Nuclear, Space and Medical Instruments under Harsh Radiation Conditions



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## 200 MeV proton damages on Hamamatsu MPPCs (Si-PMs) and GRBALPHA CubeSat status

*Wednesday, 27 April 2022 09:00 (25 minutes)*

We measured 200 MeV proton damages on Hamamatsu MPPCs (Si-PMs), S13360-6050CS and S14160-6050HS, using the Wakasa Wan Energy Research Center in Japan. To achieve the lower energy threshold of CsI(Tl) with the damaged MPPCs, we measured the performances at different operation voltages and temperatures. The lower operational voltage is preferred due to the large increase of the dark current. The results are reported in <https://doi.org/10.1016/j.nima.2020.164673> and <https://doi.org/10.1016/j.nima.2020.164945>.

GRBALPHA is 1U CubeSat launched in 2021 Mar. The detector is 75x75x5mm CsI(Tl) readout by 2x4 MPPCs (S13360-3050PE). It successfully detected several Gamma-Ray Bursts (GRBs). We present the status and the trend of the low-energy threshold caused by the MPPC degradation.

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