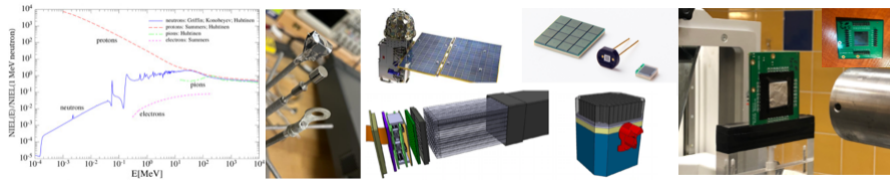


SiPM Radiation: Quantifying Light for Nuclear, Space and Medical Instruments under Harsh Radiation Conditions



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Silicon Photomultipliers: Enabling Future Astroparticle Physics Missions

In this talk I discuss three proposed space-based missions covering a variety of astroparticle physics science topics: the AMEGO-X MIDEX-class all-sky medium-energy gamma-ray telescope, the TIGERISS Pioneers-class cosmic-ray telescope for measuring nuclear abundances over a very wide range of charges, and the developing GECCO concept combining a Compton telescope with a deployable coded mask for high angular resolution imaging for medium-energy gamma rays. These missions designs all incorporate silicon photomultipliers as an enabling technology. I will discuss briefly the motivation for each of these instruments, their overall detector designs, and the specific roles that silicon photomultipliers uniquely play in their implementation.

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