

UFSDs and applications in medicine and cosmic ray analyses

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AGILE (Advanced enerGetic Ion eLectron tEle- scope) instrument is developed by the University of Kansas and NASA Goddard Space Flight Center to characterize solar energetic particles and anomalous cosmic rays. AGILE aims at identifying a large variety of ions (H-Fe) in a wide energy range (1-100 MeV/nuc) in real-time using, for the first time in space, pulse shape discrimination. AGILE will be able to observe in-situ the fluxes of a large variety of particles in a wide energy range to advance our knowledge of the fundamental processes in the Universe. A first flying prototype will be launched on board a CubeSat in 2023. This talk presents the objectives of AGILE instrument mission and the design of the first flying prototype of AGILE adapted from high energy physics technologies. We also present the method used for particle discrimination and energy measurement and compare simulations to the results obtained from instruments tests in laboratory using radiation sources.

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