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## **AGILE: Development of a compact, low power, low cost and on-board detector for ion identification and energy measurement.**

AGILE (Advanced enerGetic Ion eLectron tEle- scope) instrument is being developed at KU and NASA Goddard Space Flight Center to be launched on board a CubeSat in 2022. AGILE instrument aims at identifying a large variety of ions (H-Fe) in a wide energy range (1-100 MeV/nucl) in real-time using fast silicon detectors, and fast read-out electronics. This can be achieved by the first use of real-time pulse shape discrimination in space instrumentation. This method of discrimination relies on specific amplitude and time characteristics of the signals sampled every 100ps and produced by ions that stop in the detector medium. 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. We will present the current stage of development of the instrument, the discrimination method used, and the first result from lab tests using an Am-241 source.

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