Development of the AMEGO Subsystems

SEAN GRIFFIN, UMCP / NASA GSFC, AMEGO TEAM — The All-sky Medium Energy Gamma-ray Observatory (AMEGO) is a probe-class mission in consideration for the 2020 decadal review designed to operate at energies from $\sim 200$ keV to $\lesssim 10$ GeV. Both Compton scattering and pair-production events must be considered in the AMEGO design since the interaction cross section has a crossover at $\sim$ a few MeV. AMEGO is made of four major subsystems: a plastic anticoincidence detector for rejecting cosmic-ray events, a silicon tracker for measuring the energies of Compton scattered electrons and pair-production products, a CZT calorimeter for measuring the energy and location of Compton scattered photons, and a CsI calorimeter for measuring the energy of the pair-production products at high energies. The prototype subsystems are under development at the NASA Goddard Space Flight Center and the Naval Research Lab; in this contribution we provide details on the development of the different subsystems in preparation for beam tests and a balloon flight.