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The use of Gaseous Electron Multiplying detectors on suborbital X-ray rocket payloads

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The use of suborbital rocket payloads to perform intriguing science in only 5 minutes continuously requires the use of new and innovative technologies. High resolution X-ray spectroscopy necessitates large collecting areas and large fields of view to achieve adequate countrates in this short amount of time. One method of increasing the signal is to use large format detectors. Stitching together an array of solid state devices would be scientifically optimal, but budgetary constraints preclude this possibility. We have found that large formats can be practically achieved using gaseous electron multiplying (GEM) detectors. In this talk I will summarize the scientific goal of the suborbital rocket missions, how the GEM detectors contribute to the realization of this goal, recent flight results obtained from these payloads, and future mission goals.

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