

BLACK HOLES IN DENSE STAR CLUSTERS
Aspen Center for Physics
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TITLE: Giant X-ray Flares From Extragalactic Globular Clusters

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We present the discovery of luminous (7×10^{39} - 5×10^{40} ergs/s), very brief (1-10 minute) X-ray flares in two extragalactic globular clusters discovered with Chandra. While brief in duration, these outbursts represent the most energetic events ever recorded in globular clusters, temporarily increasing the X-ray luminosity of the source by a factor of 100-200. Such powerful rapid variability is rivaled only by gamma-ray bursts and outbursts from soft gamma repeaters, yet these sources show little resemblance to these two classes of objects. Instead, the outbursts resemble Type 1 bursts seen in Galactic neutron stars, but scaled up in luminosity by two orders of magnitude. We discuss possible origins of these sources.