Astronomers observed a neutron star in orbit with a low-mass companion acting in an unusual way. Using X-ray data from Chandra (purple), researchers saw that Terzan 5 CX1 had traits of a “low-mass X-ray binary” before it started behaving like a millisecond pulsar, and then years later returned to its original role. In this image, Chandra data were combined with optical data from Hubble of the Terzan 5 globular cluster, located about 19,000 light years from Earth.

Credit: NASA/CXC/Univ. of Amsterdam/N.Degeaan, et al.