The pulsar called B2224+65 is moving through space very rapidly. Because of its high speed, the pulsar is creating a bow shock in its wake. This structure is known as the Guitar Nebula and the likeness of the musical instrument can be seen in the optical data (blue) of this composite image. X-ray data from Chandra (pink) reveal an odd long jet that is coincident with the location of the pulsar, but is not aligned with the direction of its motion. Astronomers will continue to study this intriguing system as they try to determine the true nature of this X-ray jet.

Credit: X-ray: NASA/CXC/SAO, Optical: NASA/STScI & Palomar Observatory 5-m Hale Telescope