This deep image from NASA’s Chandra X-ray Observatory shows the Vela pulsar, a neutron star that was formed when a massive star collapsed. In the upper right is a fast moving jet of particles produced by the pulsar. The pulsar is about 1,000 light years from Earth, and makes over 11 complete rotations every second. As the pulsar spins, it spews out a jet of charged particles that race out along the pulsar’s rotation axis at about 70% of the speed of light. A movie shows dramatic changes in the jet, suggesting that the pulsar may be slowly wobbling, or precessing, as it spins. If this evidence is confirmed, it would be the first time that a neutron star has been found to be precessing.