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**TWA 5A & 5B:** A young multiple star system 180 light years from Earth in the constellation Hydra in which a brown dwarf star (TWA 5B) is orbiting a close binary star (TWA 5A).

**Credit:** NASA/CXC/Chuo U./Y.Tsuboi et al.

Chandra's observation of TWA 5 distinguished the brown dwarf TWA 5B from TWA 5A. The X-rays from both the stars and the brown dwarf come from their hot upper atmospheres, or coronas. The interiors of young stars and brown dwarfs are turbulent. When combined with rapid rotation, this turbulence can lead to a tangled magnetic field that can heat their upper atmospheres, or coronas, to a few million degrees Celsius. TWA 5B is estimated to be only between 15 and 40 times the mass of Jupiter, making it one of the least massive brown dwarfs known.

**Scale:** Image is 6 arcsec on a side.

*Chandra X-ray Observatory ACIS Image*

*CXC operated for NASA by the Smithsonian Astrophysical Observatory*