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Editor: Gerardus D. Bouw, Ph.D.
4527 Wetzel Avenue
Cleveland, Ohio 44109
U.S.A.

E-mail address: gbouw@bw.edu
http://www.geocentricity.com/

Front Cover: Artist's conceptions can be deceptive, as is illustrated by our cover picture. Nuria Calvet, of the Harvard-Smithsonian Center for Astrophysics, created a computer simulation of the disk around TW Hydrae using previously published infrared observations. Her program showed a gap extending from the star out to a distance of about 400 million miles (about the distance to the asteroid belt). TW Hydrae is thought to be about four-fifths as massive as the sun; in other words, the star is about the same size as the sun. The disk surrounding TW Hydrae contains about one-tenth as much material as the sun.

The artist's impression, which was done for a news agency and was not part of the paper, makes the scene look quite plausible by drawing it analogous to Saturn and its rings. The reader is drawn in by the familiar sight of the ringed planet (see front cover of *B.A.* no. 111, for instance). The star's diameter is greatly exaggerated, however. The diameter of the sun (or star) is about $1/200^{th}$ the diameter of the hole. In the cover picture, the sun's diameter, to scale, is $1/57^{th}$ of an inch—about the width of the base on this 1.

The research was published in the June 20, 2005, issue of *The Astrophysical Journal Letters*.

Back Cover: An actual photo of TW Hydrae taken by the Univ. of Arizona. The gray disk is an occulting disk that blocks the light from the star itself so that said light does not drown out the light from the disk of pebbles and dust. The one-tenth solar mass disk shown here stretches out to 16,000 million miles in radius, assuming 150 earth-sun distances (au); (the photographed disk spans a 175 au radius). 150 au is some forty times the distance from the star to the inside of the ring, which can just be seen on the two pictures. 7.85×10^{20} square miles holding 2×10^{32} grams, amounting to about 3×10^{11} grams per square mile, which is about 4 million tons per square mile. If the thickness of the cloud is about 93 million miles (a conservative estimate considering the inclinations of the planets), the density of the cloud is 0.04 ton per cubic mile, or about 10^{-17} gm/cm^3.