Chandra Observations of Young Open Clusters: the Pleiades and M16

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Abstract

We present the follow-up results of combined data from a 38.4 ks and a 23.6 ks observation of the core of the Pleiades open cluster. The Advanced CCD Imaging Spectrometer (ACIS-I) on board the Chandra X-ray Observatory (CXO) revealed 101 sources in a 17'x17' region, 62 of which have not been cataloged at any other wavelength. Analysis of x-ray photometry reveals ~50 uncataloged hard sources with low count rates and no variability. Many of these are most likely highly absorbed background active galactic nuclei (AGN). 17 (of 22) Pleiades members in the ACIS-I FOV were detected as soft x-ray sources with moderate to high variability. Six sources, associated with optical and/or infrared counterparts, show similar hardness and variability statistics, suggesting that we may be seeing deeply embedded unidentified Pleiades members. Additionally, we analyze the presence or absence of x-ray emission from sources with designated spectral types in the Chandra FOV.

CATEGORY: NORMAL STARS AND WHITE DWARFS