

Searching For Unresolved Binary Brown Dwarfs Using Point Spread Functions

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BINARIES

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Abstract

There currently are objects of L and T spectral type with errors in their classification of +/- 1 to 2. Metallicity and gravitational differences have accounted for some of these discrepancies, and recent studies have shown unresolved binary brown dwarfs may offer some explanation as well. However limitations in technology and resources make it difficult to clearly resolve an object that may be binary in nature. It has been shown that using model point-spread functions for single and binary sources have been able to identify statistically strong binary candidates from images that are apparently unresolved. The HST archive contains numerous observations of brown dwarfs from NICMOS that have never been rigorously analyzed for binary properties. Results from for this archive proposal will help determine if there really is an increase in binary brown dwarfs in the L/T transition and identify potential candidates for future observations to determine orbital information.

Investigators:

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Number of investigators: 3

Dataset Summary:

Instrument	No. of Datasets	Retrieval Method	Retrieval Plan
NICMOS	240	FTP	All (240) datasets in one week