Cycle 1

# Proposal for ASTRO-E2 Observations Cover Page

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Proposal Title ASTRO E-2 XRS	SPECT	ROSCOPY OF THE	PRE-MAIN-S	EQUENCE STAR DOAR 2	:1				
Subject Category STARS AND STAR FORMING REGIONS									
Number of Targets	1	Total Time	100.00	TOO Proposal?	N	Merging?	Y		

Co-Investigator(s)	)		
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#### Abstract

We propose a 100 ks XRS observation to study the hot plasma properties on the 1 Myr old PMS star DoAr 21. This PMS star, with a weak disk, represents an intermediate evolutionary stage between the only two PMS stars with published Chandra spectra, TW Hya (which has a disk) and HD 98800 (which does not have a disk). Our previous Chandra observation of DoAr 21 also shows X-ray properties that are intermediate between these other two PMS stars. DoAr 21 is one of the very few PMS stars bright enough to yield a high-quality XRS spectrum and the probes of density, temperature, and kinematics of the X-ray emitting plasma are well suited to the response and resolution of the XRS, which will improve significantly upon the quality of the Chandra spectrum of DoAr 21.

Institute Endorsement	
Name of Administrator	
Administrative Authority	
Institute	
Signature:	Date:

## Proposal for ASTRO-E2 Observations

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Target Form

PΙ

PROF. DAVID H. COHEN

Proposal Title

ASTRO E-2 XRS SPECTROSCOPY OF THE PRE-MAIN-SEQUENCE STAR DOAR 21

# Target Summary

Tar No		R.A.	Dec	Obs Time (ksec)	Num obs	Time crit	XRS Filter	CAL Y/N	Est. XRS CR	XIS Mode.	Est. XIS CR	Rem Y/N
1	DOAR 21 (V2246 OPH)	16 26 03.2	0 -24 23 40.0	100.00	1	N	OPEN	N	0.39000	NORM N N	1.00000	N

### Target Constraints

		Coordinated Observations											Monitoring Obs			Phase Dependent Observations					Roll Depend Obs		
-	ar	Start Time Stop Time				Intervals (ksec)				Epoch	Period	$_{ m Min}$	Max		$_{ m Min}$	Max							
1	V Y/	/N Y	l'ear	Mο I	Day	Hr	Min	Year	Μο	Day	Hr	Min	Y/N	Min	Max	Y/N	MJD	(days)	Phase	Phase	Y/N	Roll	Roll
	1 N	N											N			N					N		

### Target Remarks

Tar No	Remarks
1	