Cycle 1

Proposal for *ASTRO-E2* Observations

Cover Page

Principal Investigator

PROF. DAVID H. COHEN

Postal Address PHYSICS AND ASTRONOMY
SWARTHMORE COLLEGE
500 COLLEGE AVE.
SWARTHMORE
PA USA 19081

Telephone (610) 328-8587 **Fax** (610) 328-7895
E-mail DCOHEN1@SWARTHMORE.EDU

Proposal Title

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

Subject Category STARS AND STAR FORMING REGIONS

Number of Targets	1	Total Time	100.00	TOO Proposal?	N	Merging?	Y

Co-Investigator(s)

First Name	Last Name	Institute	Country
ERIC	JENSEN	SWARTHMORE COLLEGE	USA
MARC	GAGNE	WEST CHESTER UNIVERSITY OF PENNSYLVANIA	USA
JOSEPH	MACFARLANE	PRISM COMPUTATIONAL SCIENCES	USA

Co-I contact? N **E-mail**

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:

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Target Form

PI

PROF. DAVID H. COHEN

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Target Summary

Tar No	Target Name	R.A.	Dec	Obs Time (ksec)	Num obs	Time crit	XRS Filter	CAL Y/N	Est. XRS CR	XIS Mode. Clock/W/B	Est. XIS CR	Rem Y/N
1	DOAR 21 (V2246 OPH)	16 26 03.20	-24 23 40.0	100.00	1	N	OPEN	N	0.39000	NORM N N	1.00000	N

Target Constraints

Tar No	Coordinated Observations Y/N	Start Time Year	Start Time Mo	Start Time Day	Start Time Hr	Start Time Min	Stop Time Year	Stop Time Mo	Stop Time Day	Stop Time Hr	Stop Time Min	Monitoring Obs Y/N	Intervals (ksec) Min	Intervals (ksec) Max	Phase Dependent Observations Y/N	Epoch MJD	Period (days)	Min Phase	Max Phase	Roll Depend Obs Y/N	Min Roll	Max Roll
1	N											N			N					N		

Target Remarks

Tar No	Remarks
1	