


**Honolulu AAS Meeting
JWST Proposal Planning Workshop
January 3, 2020**

**Target Exercise
Barnard's Star**

Weston Eck

Barnard's star

- Click on Fixed Target Resolver



The screenshot shows the 'Targets of JWST Draft Proposal (Unsaved)' window. On the left is a sidebar with a tree view containing 'JWST Draft Proposal (Unsaved)', 'Proposal Information', 'Targets' (highlighted in blue), 'Observations', and 'Observation Links'. The main panel is titled 'Targets' and contains several buttons:

- Fixed Target Resolver** (highlighted with a red box): Resolve a target name or position
- New Fixed Target**: Create a new Fixed Target
- New Target Group**: Create a new Target Group
- New Solar System Target**: Create a new Solar System Target
- New Generic Target**: Create a new Generic Target
- Import Targets...**: Import Fixed Targets from whitespace, CSV, TSV, or VOTable

Barnard's Star

- Search Barnard's Star
- Select Object as Target

APT Fixed Target Resolver

HST Phase II observers must ensure that target coordinates are sufficiently accurate for their proposed observations. All Coordinates must be specified with the J2000 equinox.

Search Databases: SIMBAD NED GSC2 2MASS Catalog GALEX

Search Method:

Object Name:

Results (1 objects)

Name	Type	RA (J2000)	Dec (J2000)	Catalog
NAME Barnard's star	Variable of BY Dra type	17 57 48.4980	+04 41 36.21	SIMBAD

- Fill in Category & Description

JWST Draft Proposal (Unsaved)

- Proposal Information
- Targets
 - Fixed Targets
 - 1 NAME-BARNARDS-STAR
 - Observations
 - Observation Links

1 NAME-BARNARDS-STAR of JWST Draft Proposal (Unsaved)

Number: 1

Name in the Proposal: NAME-BARNARDS-STAR (unique within proposal)

Name for the Archive: NAME Barnard's star (standard resolvable name)

Category: Star

Description: +/- G dwarfs

Choose 1 to 5 items after selecting a category.

J2000 Coordinates (ICRS) RA: 17 57 48.4980 Dec: +04 41 36.21

Uncertainty RA: Arcsec Dec: Arcsec

Extended: Unknown Recommended for spectroscopy (for advice to data reduction pipeline)

Background Target

Observations of this target require companion background observation(s)

Proper Motion RA: None Selected Dec: None Selected

Epoch:

Annual Parallax (arcsec):

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Barnard's Star

- **Fill in Proper Motion values and Epoch (values taken from SIMBAD)**
 - RA: -798.58 mas/yr
 - Dec: 10300 mas/yr
 - Epoch: 2000

JWST Draft Proposal (Unsaved)

- Proposal Information
- Targets
 - Fixed Targets
 - 1 NAME-BARNARDS-STAR**
 - Observations
 - Observation Links

1 NAME-BARNARDS-STAR of JWST Draft Proposal (Unsaved)

Number: 1

Name in the Proposal: NAME-BARNARDS-STAR (unique within proposal)

Name for the Archive: NAME Barnard's star (standard resolvable name)

Category: Star

Description: +/- G dwarfs

Choose 1 to 5 items after selecting a category.

J2000 Coordinates (ICRS) RA: 17 57 48.4980 Dec: +04 41 36.21

Uncertainty RA: [] Arcsec Dec: [] Arcsec

Extended: Unknown Recommended for spectroscopy (for advice to data reduction pipeline)

Background Target

Observations of this target require companion background observation(s)

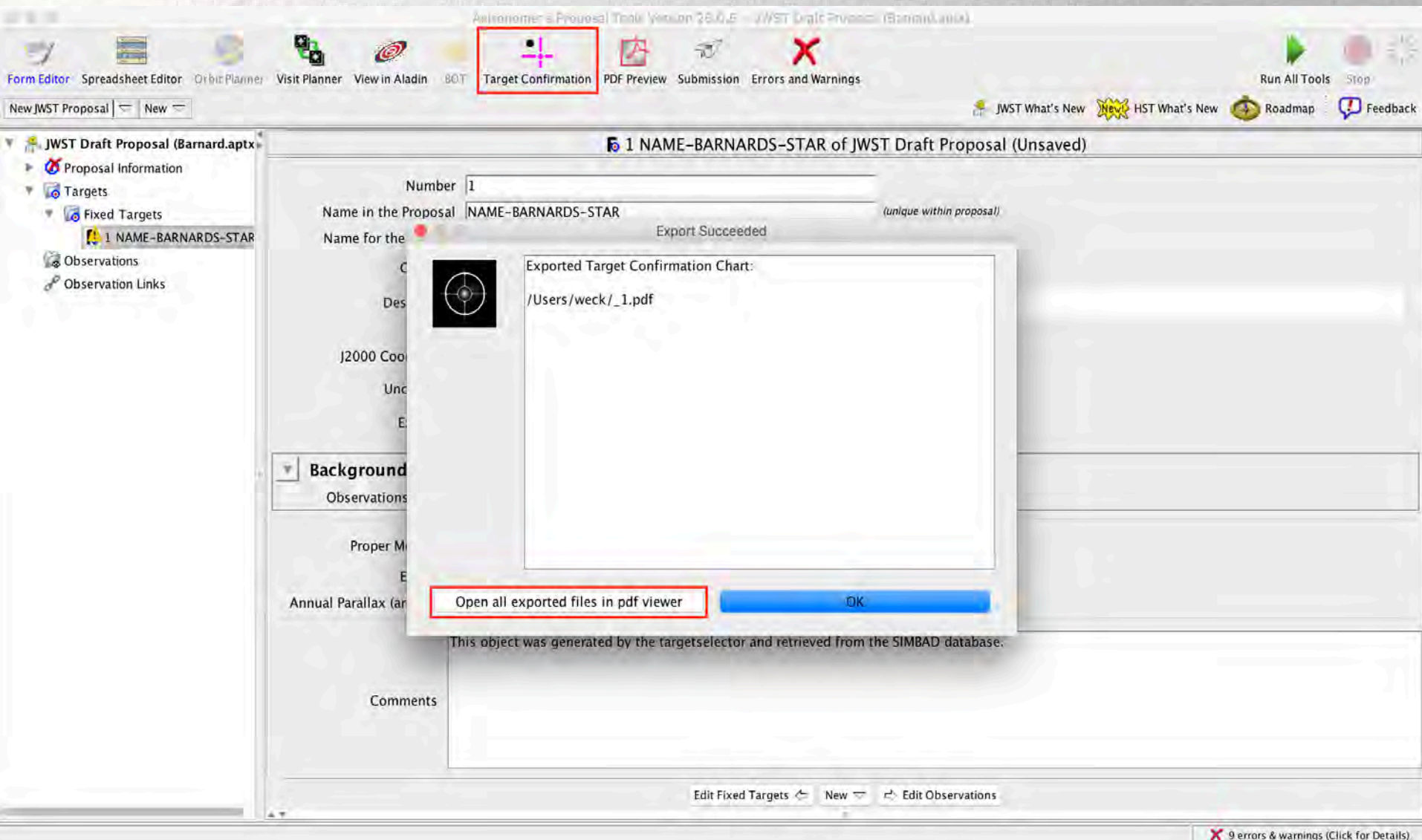
Proper Motion RA: -798.58 mas/yr Dec: 10300 mas/yr

Epoch: 2000

Annual Parallax (arcsec): []

Barnard's Star

- Run Target Confirmation & Open PDF



The screenshot displays the Astronomer's Proposal Tool (APT) interface. The top toolbar includes buttons for 'Form Editor', 'Spreadsheet Editor', 'Orbit Planner', 'Visit Planner', 'View in Aladin', 'BPT', 'Target Confirmation' (highlighted with a red box), 'PDF Preview', 'Submission', and 'Errors and Warnings'. The main window shows a 'JWST Draft Proposal (Barnard.aptx)' with a tree view on the left containing 'Proposal Information', 'Targets', 'Fixed Targets', 'Observations', and 'Observation Links'. The 'Fixed Targets' section is expanded to show '1 NAME-BARNARDS-STAR'. The main panel displays the target details for '1 NAME-BARNARDS-STAR of JWST Draft Proposal (Unsaved)'. The 'Number' field is set to '1', and the 'Name in the Proposal' is 'NAME-BARNARDS-STAR'. A dialog box titled 'Exported Target Confirmation Chart:' is open, showing a target icon and the file path '/Users/weck/_1.pdf'. The dialog has an 'OK' button and a checkbox labeled 'Open all exported files in pdf viewer' (highlighted with a red box). The status bar at the bottom indicates '9 errors & warnings (Click for Details)'.

Barnard's Star

Target 1 (NAME-BARNARDS-STAR) - Program

○ - Specified J2000 Position at Specified Epoch:

17:57:48.4980 +04:41:36.21 [RA(HMS) Dec(DMS)]

Specified Epoch: 2000

✚ - Computed J2000 Position at Image Epoch:

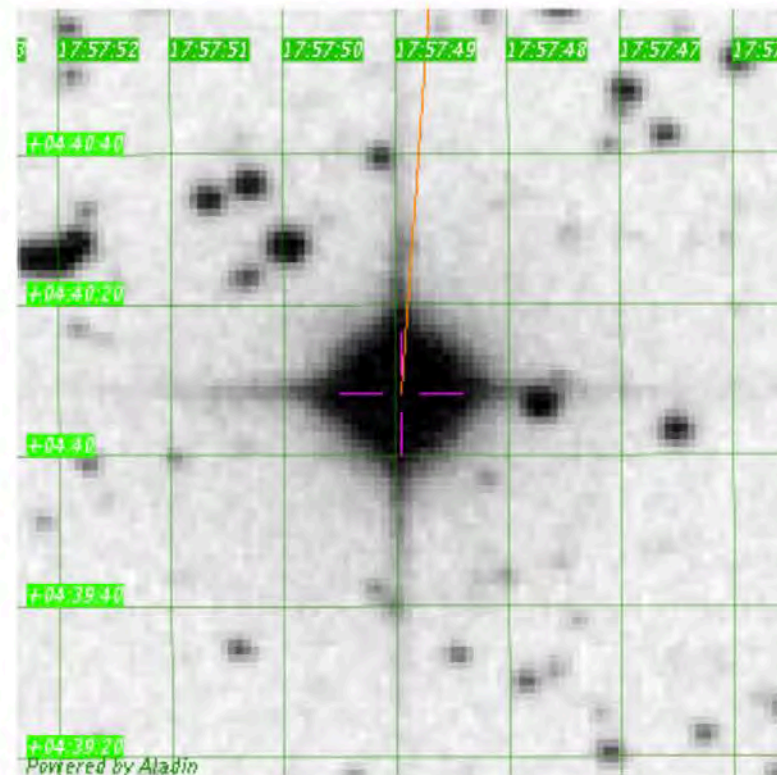
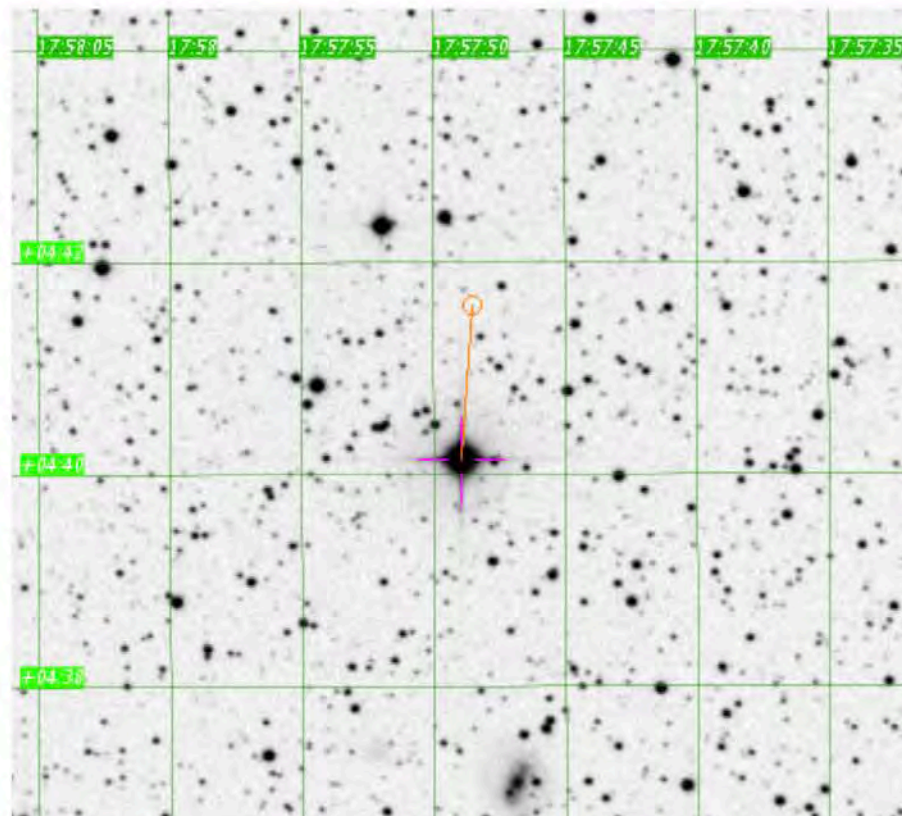
17:57:48.9547 +04:40:8.14 [RA(HMS) Dec(DMS)]

Image Epoch: 1991.45

RA Proper Motion: -798.58 mas/yr

Dec Proper Motion: 10300 mas/yr

Annual Parallax:



Powered by Aladin

Barnard's Star

- This image shows what a target confirmation looks like with a proper motion.
- The orange circle shows where Barnard's star is in the year 2000.
- The orange line traces back the object's proper motion to the year 1991 when the image was taken.
- If the pink crosshair lines up with your object then your coordinates and proper motion values are correct.