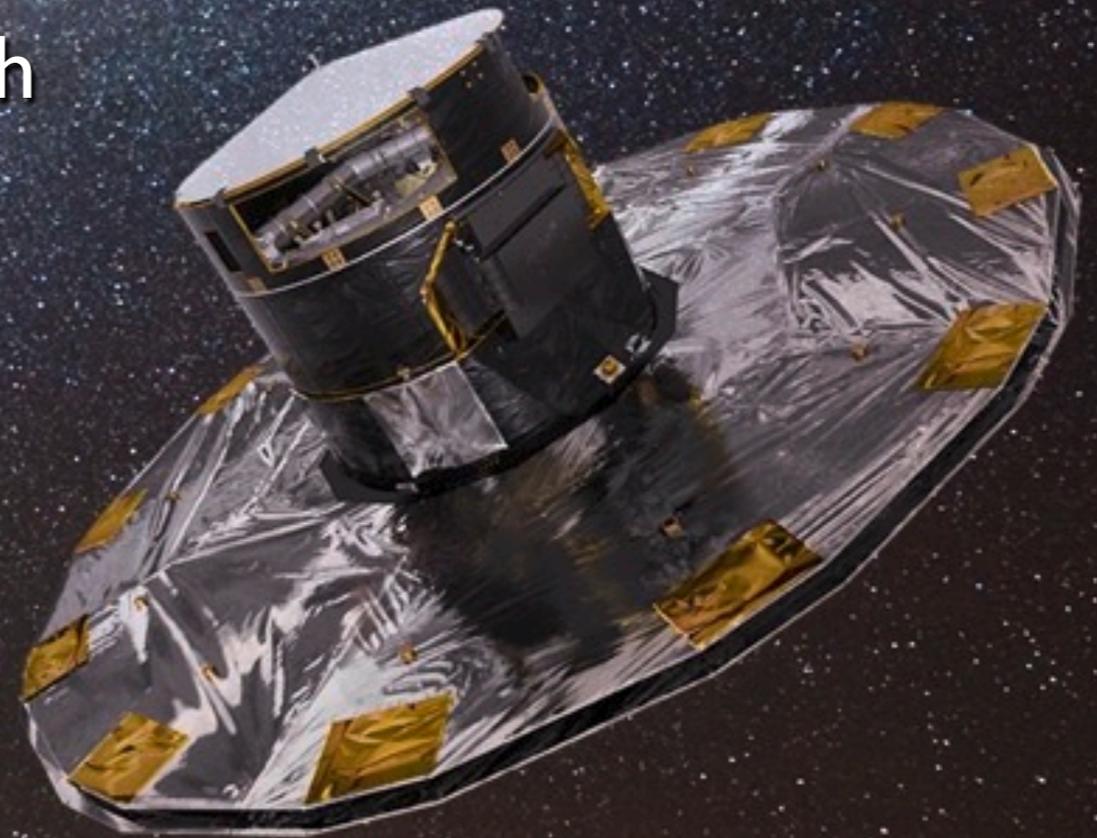


Workshop Summary

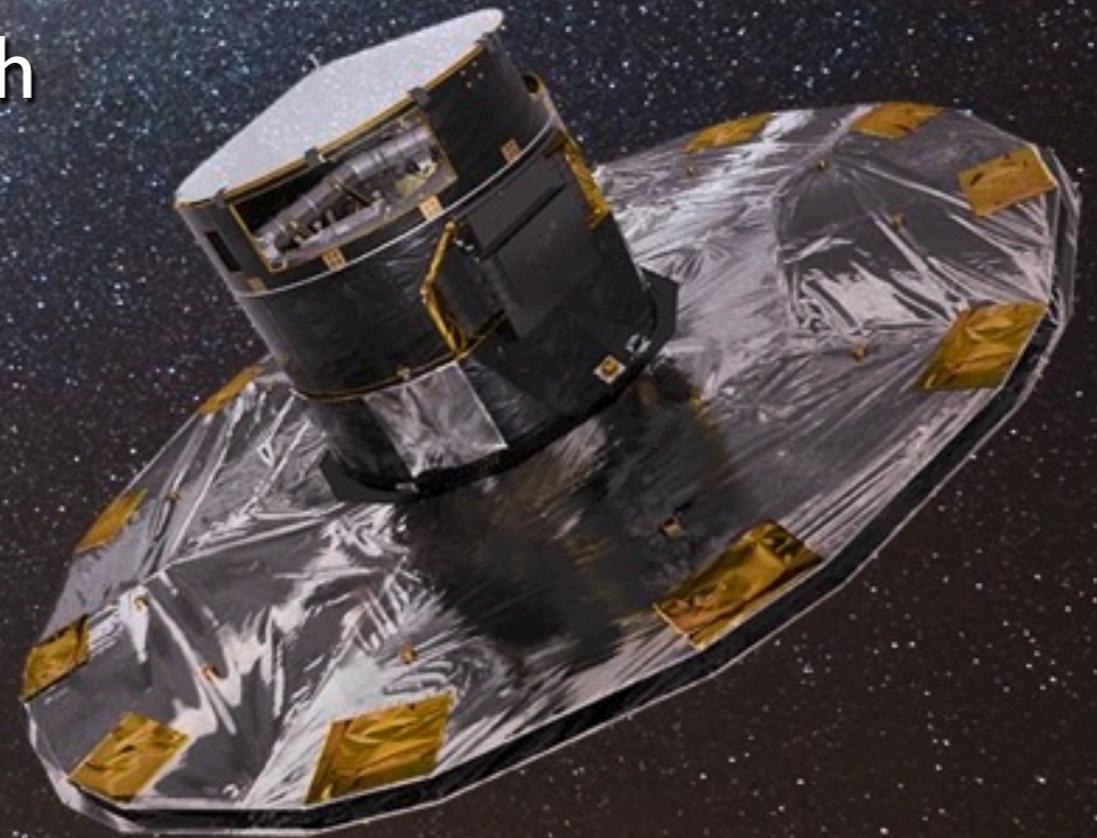
J. Davy Kirkpatrick
IPAC/Caltech



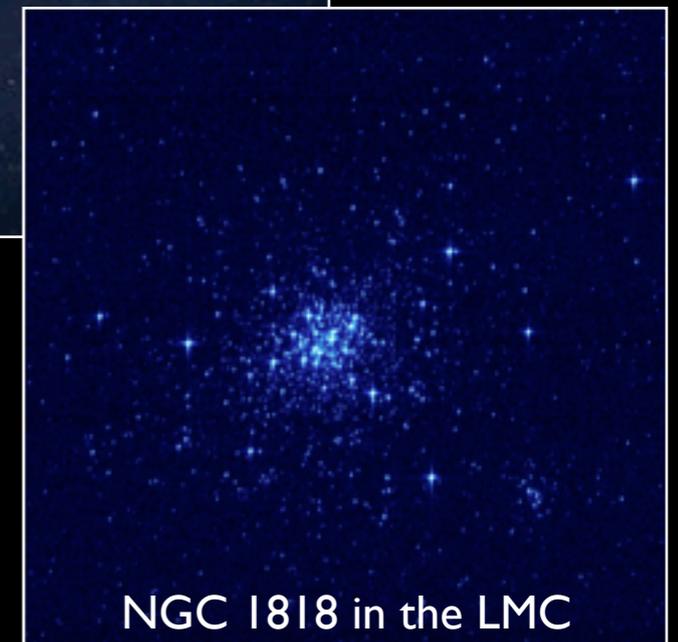
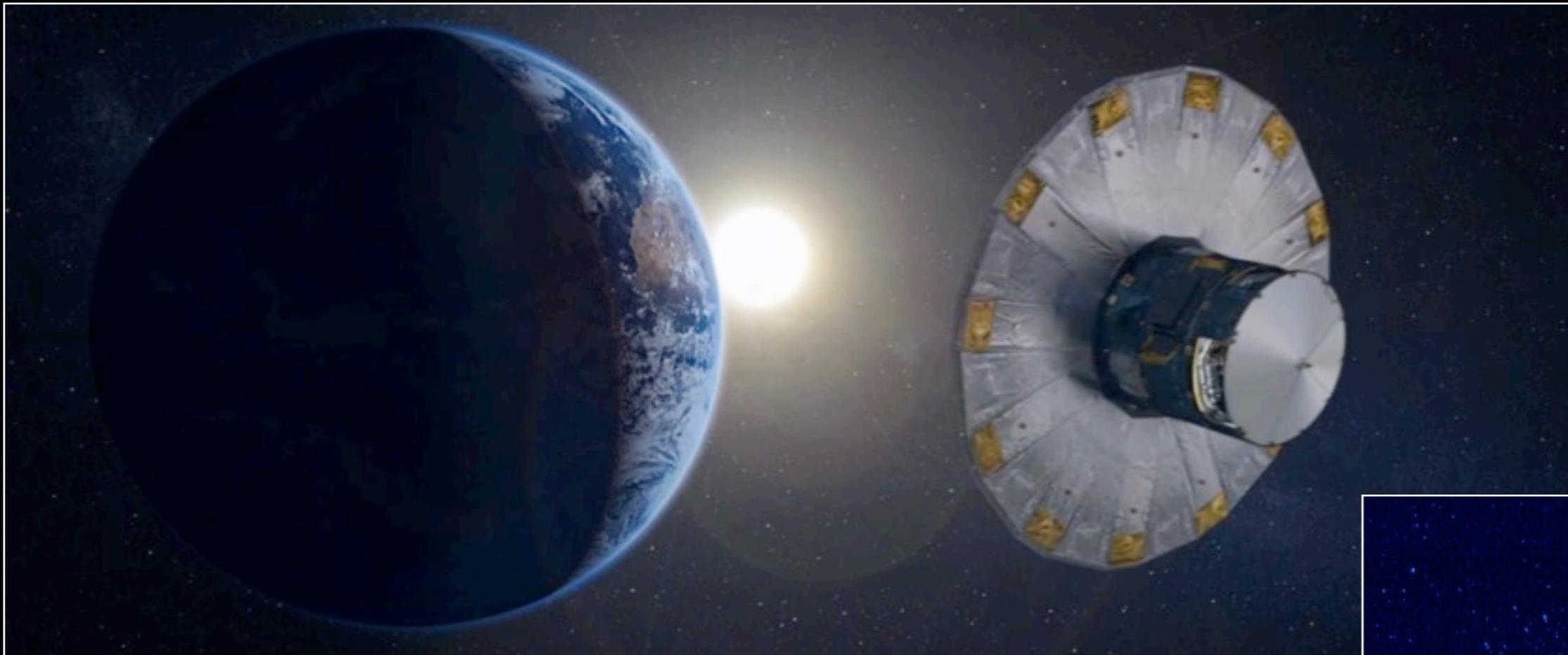
~~Workshop Summary~~

Random Thoughts from the Workshop

J. Davy Kirkpatrick
IPAC/Caltech



The news from L2 is good and the observatory is having only minor issues



NGC 1818 in the LMC

How many BDs will Gaia “detect”?

Directly imaged BDs (assumes BD = L or T type)

L0-L4.5: ~700-900

L5-T1: ~50-100 (revised Sarro numbers + Smart extrapolation)

Young BDs in nearest star clusters

(Assumes BDs in moving groups are included in first line above unless they're M dwarfs)

TBD (see revised numbers in Sarro's talk)

BDs detected via astrometric signatures of main sequence stars.

~thousands (extrapolation of Sozzetti's numbers; BDs w/in 3 AU for FGKM w/ $V < 17$)

BDs in transiting systems.

~hundreds (Dzigan talk)

BDs indirectly detected via microlensing events?

TBD

Plus, ~7% of the million BDs from Burningham's talk will live in cpm systems with a primary characterized by Gaia ~tens of thousands

We have a LOT of coordinating observations to consider

We will need pointed observations (spectra, in particular!) of the choicest Gaia discoveries. Community-wide efforts will be best in securing large blocks of observing time and maximizing science yield.

Getting cross-identifications to catalog entries in 2MASS and WISE will be critical to characterizing Gaia discoveries at longer wavelengths. This will be a challenge given the differences in epoch, resolution, depth, and wavelength.

What are the “cool kids*” saying?

Results for #Gaiabds
Top / All

Jackie Faherty @jfaherty · 11m
@sjs917 this is an awesome talk. #gaiabds
View conversation Reply Retweet Favorite More

Jackie Faherty @jfaherty · 13m
Jose caballero notes that the first “how many BDs will gaia observe” statement was made BEFORE the first BD was studied #Gaiabds
Expand Reply Retweet Favorite More

Sarah Jane Schmidt @sjs917 · 43m
According to @astrobuoy the absence of a NIR survey to complement LSST is a big hole in our brown dwarf toolkit #gaiabds
Expand Reply Retweet Favorite More

Eric Mamajek @EricMamajek · 51m
Birmingham: With LSST, we'll be entering the mega-BD era, will need to rely on photometric spectral type estimates for stat studies #Gaiabds
Expand Reply Retweet Favorite More

Jackie Faherty @jfaherty · 3h
Chairing a session means I can't tweet easily but @sjs917 has some gorgeous flare slides and movies #galabds
Expand Reply Retweet Favorite More

Eric Mamajek @EricMamajek · 3h
Schmidt: Halpha emission nearly ubiquitous in L0 dwarfs, incidence decreases hotward and coolward #GaiaBDs
Expand Reply Retweet Favorite More

Sarah Jane Schmidt @sjs917 · 4h
According to @astronomerslc25 the only thing we can't get from a white dwarf spectrum is metallicity! #gaiabds
Expand Reply Retweet Favorite More

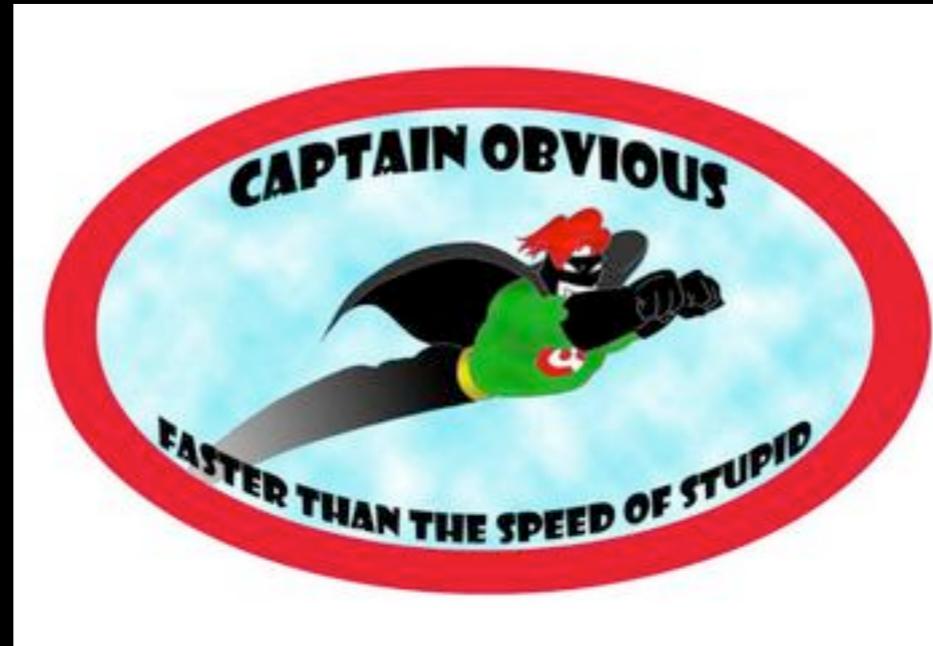
Eric Mamajek @EricMamajek · 5h
Faherty: Tangential velocities of FGKMLT dwarfs seem to be similarly distributed, but bluer cool dwarfs have higher Vtans (old) #Galabds
Expand Reply Retweet Favorite More

John Bochanski @jbocha · 5h
@jfaherty giving a nice summary of the state of brown dwarf ages. Red j-h suggests younger objects. #gaiabds
Expand Reply Retweet Favorite More

Jackie Faherty @jfaherty · 5h
Mark Taylor gives a topcat tutorial with demos highlighting the power of this tool in gaia queries. #gaiaBDs
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*term copyright Ben Burningham 2014

Why are we doing this again???



To get to the underlying physics

Most prophetic statement...

Most prophetic statement...

... comes from Christiane “You can fit an elephant with two points” Helling

Most prophetic statement...

... comes from Christiane “You can fit an elephant with two points” Helling

“What does it mean to ‘test the models?’”

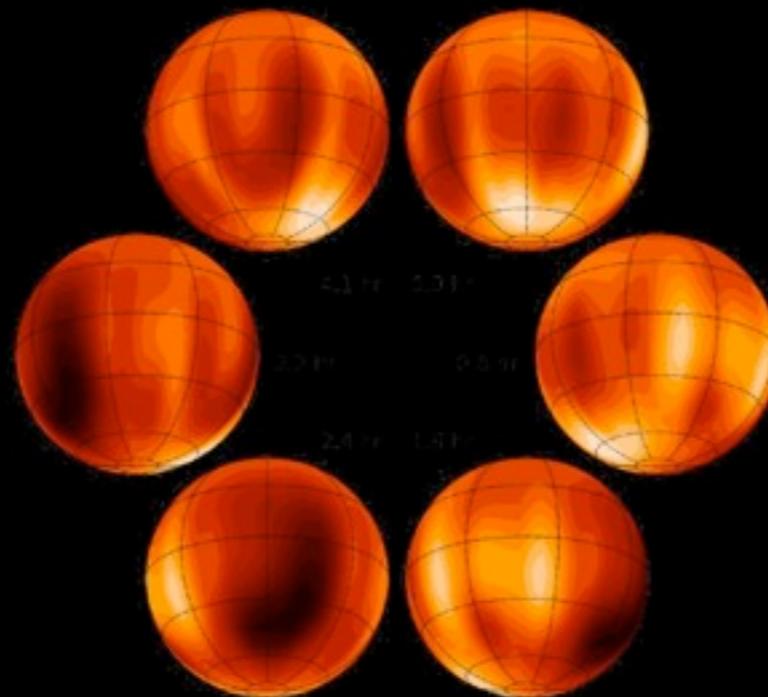
Most prophetic statement...

... comes from Christiane “You can fit an elephant with two points” Helling

“What does it mean to ‘test the models’?”

Note to observers: We will be doing lots of coordinated observations. Let’s make sure that we take the data that best allow us to improve the models while providing critical info to the modelers.

Note to modelers: Engage with the observers. Which observations would best help you?



A Very Special Thanks...

To the Science Organizing Committee

Beate Stelzer (INAF-OAPa, Palermo)
Céline Reylé (UTINAM Obs.Besancon)
Coryn Bailer-Jones (MPIA, Heidelberg)
David Barrado y Navascues (CAB, Madrid)
Davy Kirkpatrick (IPAC, California)
France Allard (CRA, Lyon)
Hugh R.A. Jones (UHerts, Hatfield)
Jackie Faherty (Carnegie DTM, Washington)
Mario G. Lattanzi (INAF-OATo, Torino)
Richard L. Smart (INAF-OATo, Torino)

A Very Special Thanks...

To the Local Organizing Committee

Alberto Vecchiato
Alessandro Sozzetti
Beatrice Bucciarelli
Catia Cardoso
Maria Teresa Crosta
Marica Sarasso
Roberto Morbidelli
Tullia Carriero

A Very Special Thanks...

To our Chair, Ricky Smart



Thank you!