

Transiting exocomets detected in broadband light by **TESS** in the β **Pictoris** system



Sebastian Zieba¹, Konstanze Zwintz¹, Matthew A. Kenworthy², Grant M. Kennedy³

Sebastian Zieba
August 02nd. 2019
Student Poster Competition

β PICTORIS

- $V = 3.86$ mag, $T = 3.7$ mag
- $d = 19.76$ pc (Gaia Coll. et al.)
- Age ≈ 23 Myr (Mamajek & Bell)
- SpT = A6V

1984: Discovery of an **infrared excess** and a **disc** around β Pictoris (Aumann; Smith & Terrile).

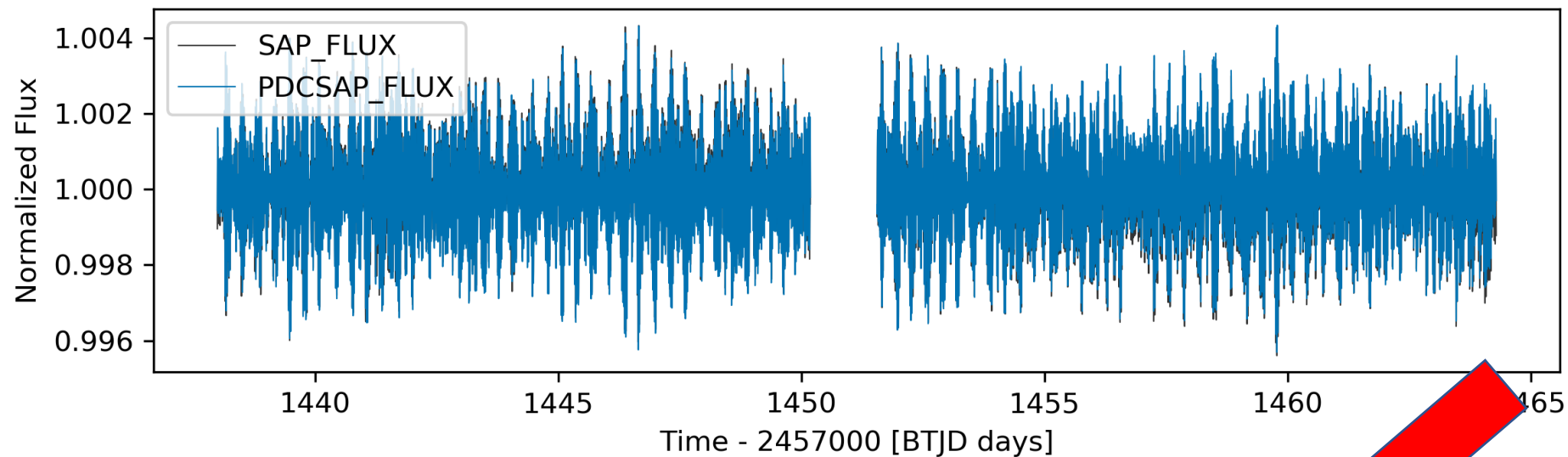
1987: First detection of exocomets with **spectroscopy** (Ferlet et. al).

TESS OBSERVATIONS

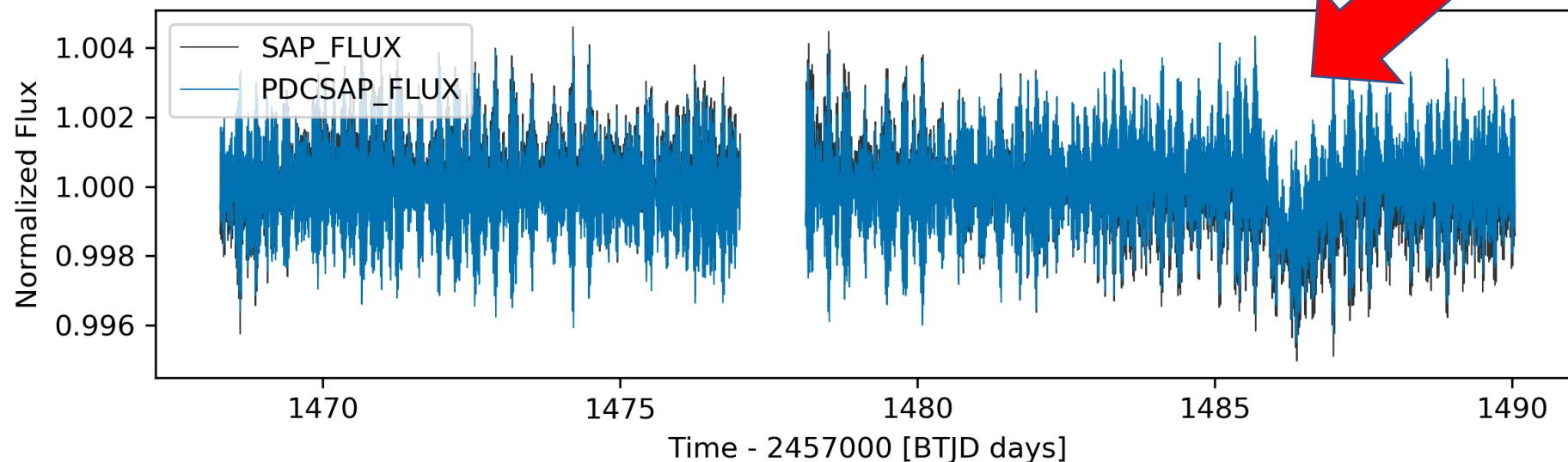
- Sector 4 – 7
(105 days)
- Oct. 2018 – Feb. 2019
- 2 minute cadence



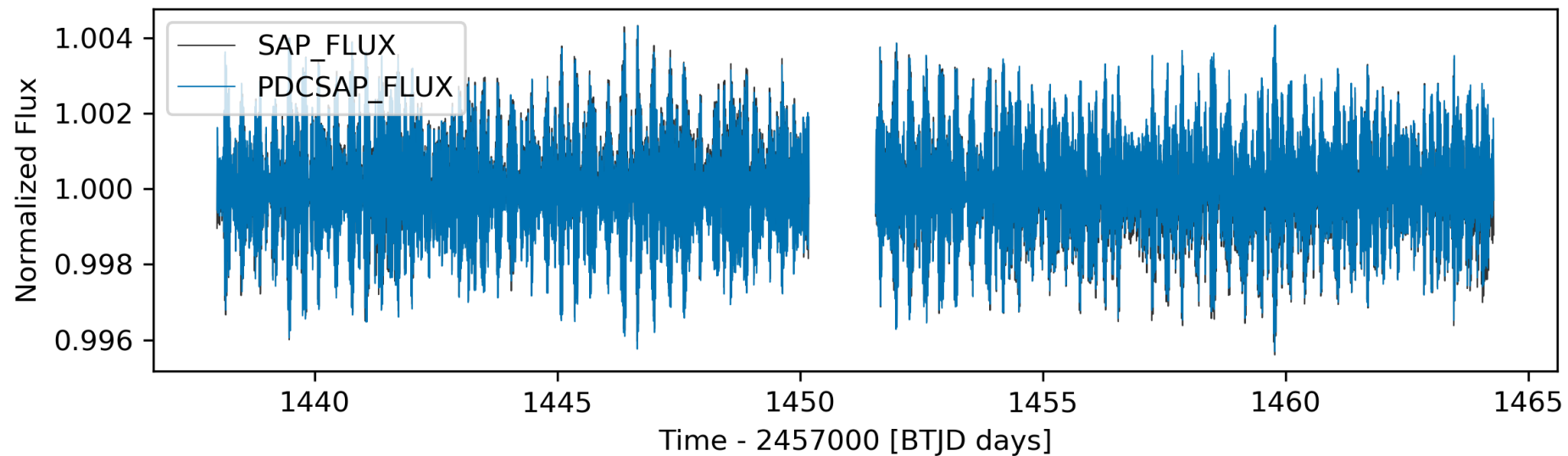
Sector 5



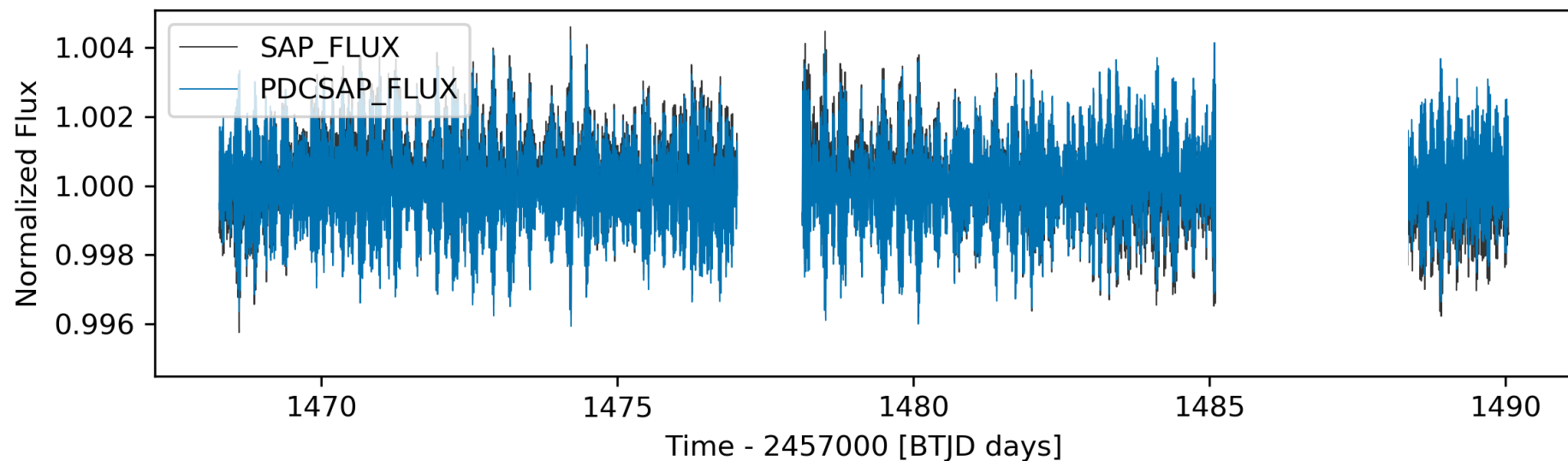
Sector 6

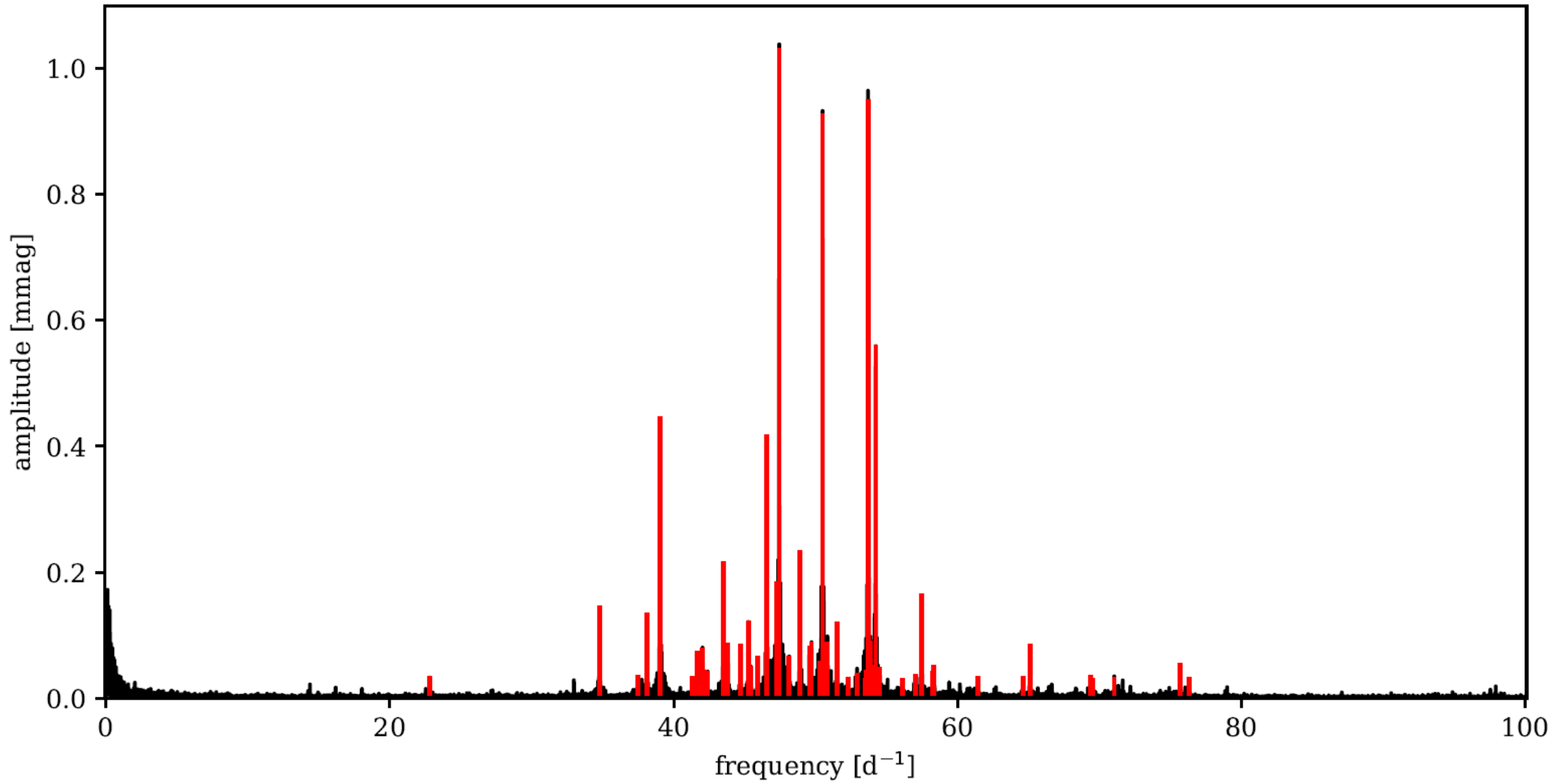


Sector 5



Sector 6





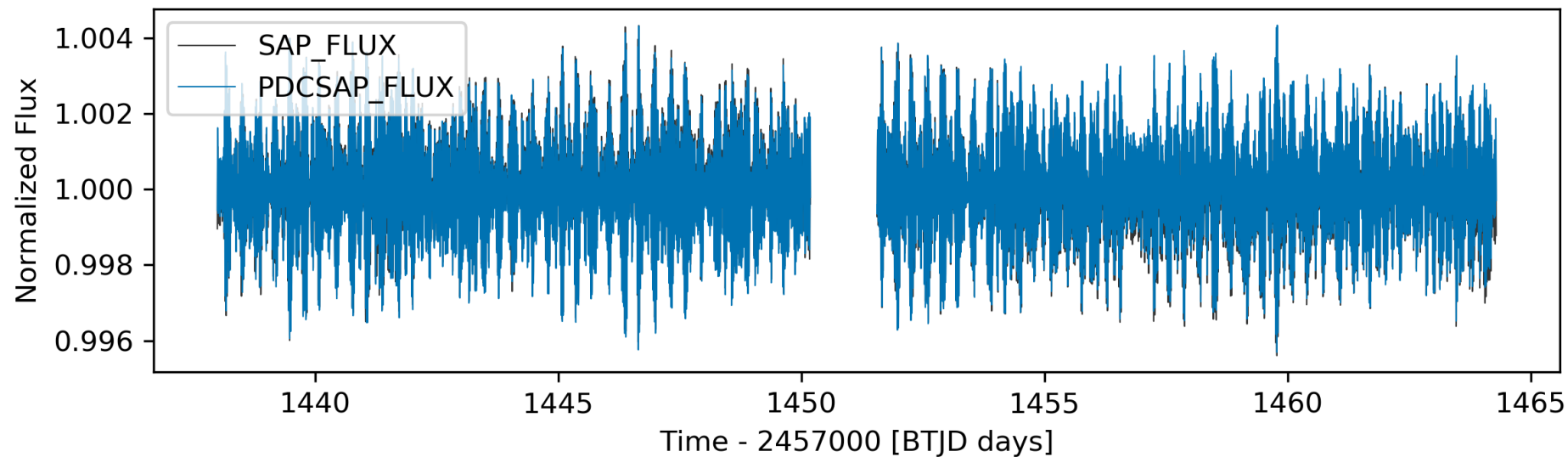
Sebastian Zieba



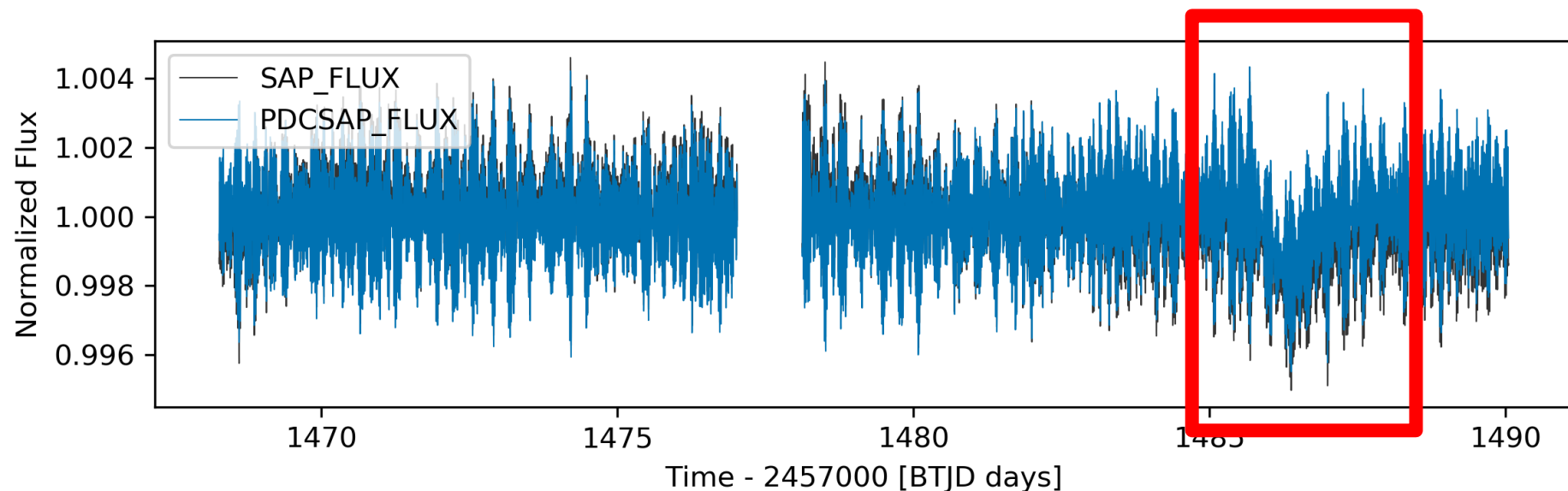
@CyberZieba



Sector 5

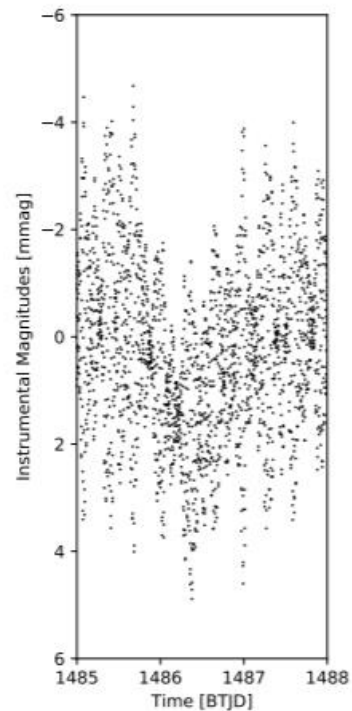


Sector 6



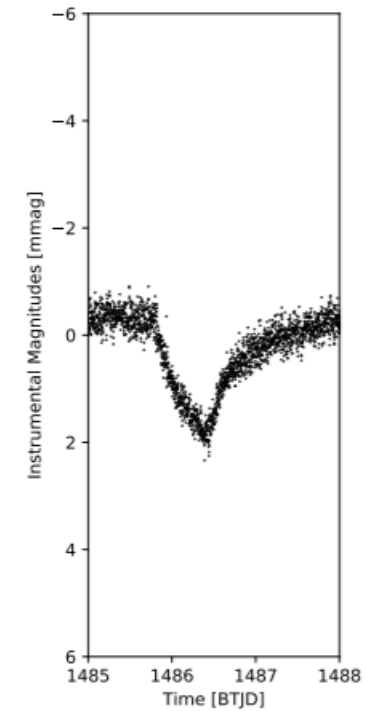
Sebastian Zieba

University of Innsbruck

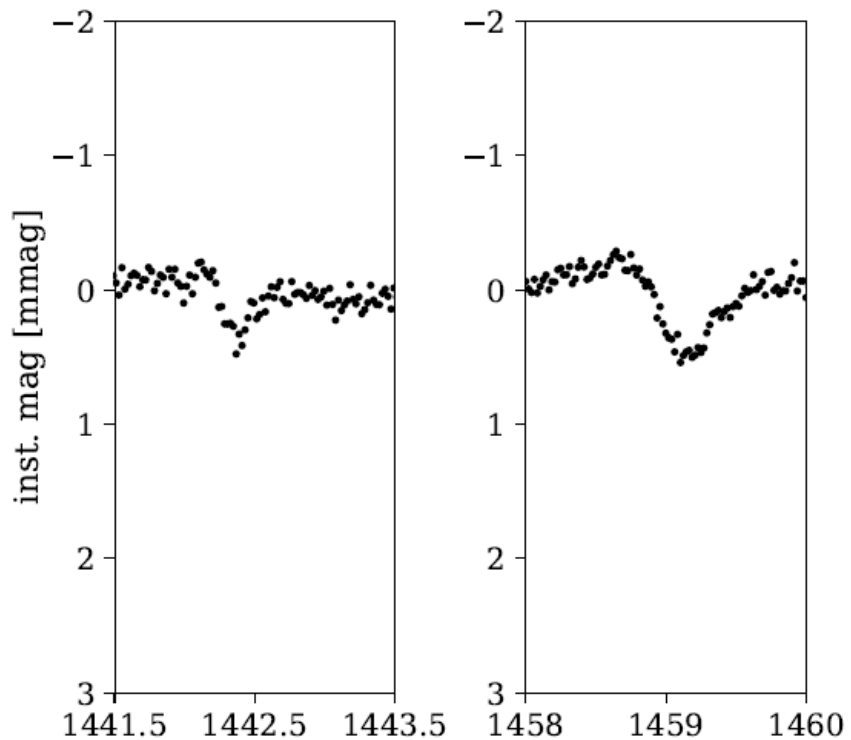


Sebastian Zieba

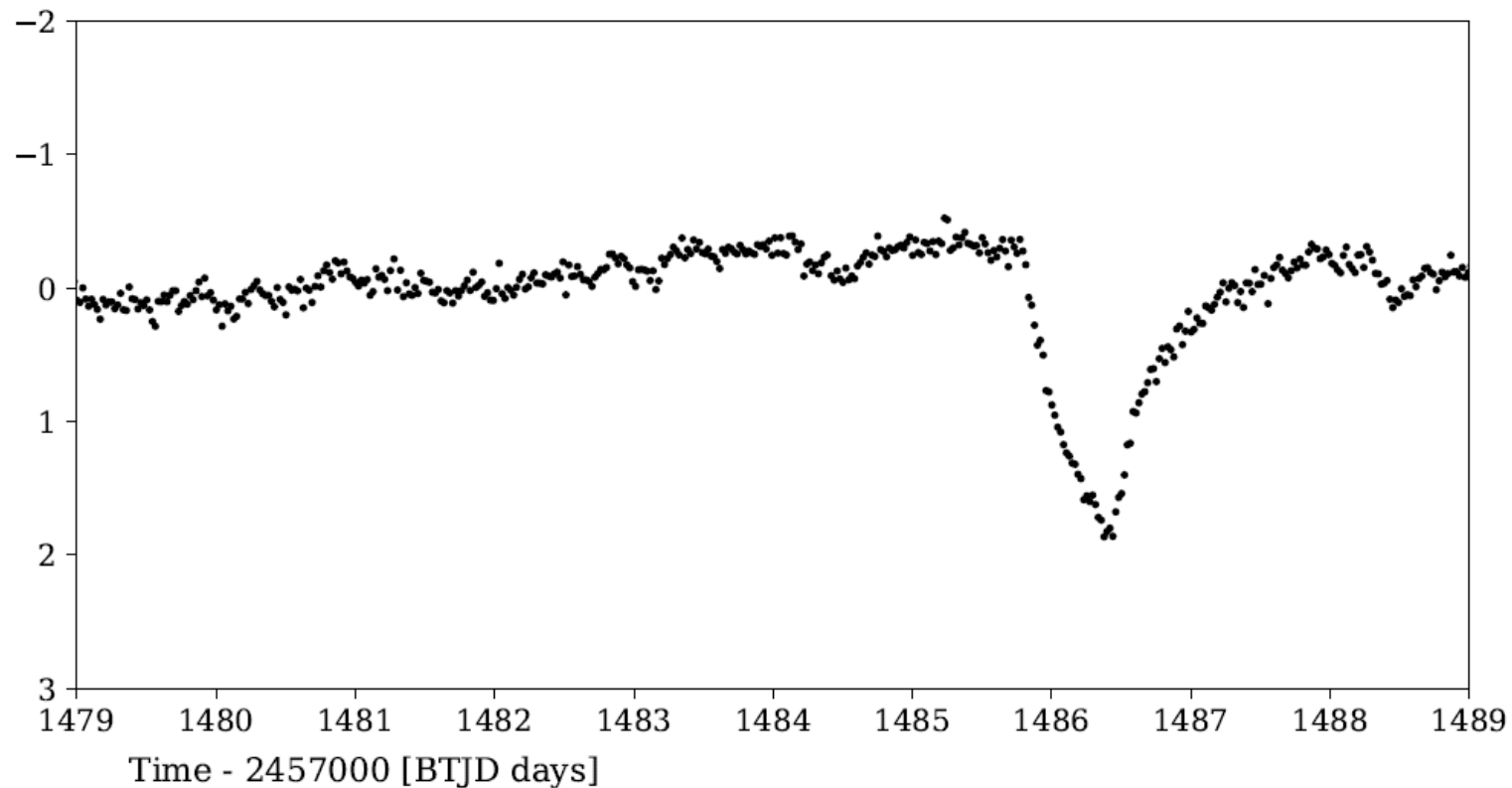
University of Innsbruck



Sector 5



Sector 6



non-periodic



- Checked Data Release Notes



TESS Data Release Notes: Sector 6, DR8

*Michael M. Fausnaugh, Christopher J. Burke
Kavli Institute for Astrophysics and Space Science, Massachusetts Institute of Technology,
Cambridge, Massachusetts*

*Douglas A. Caldwell
SETI Institute, Mountain View, California*

*Jon M. Jenkins
Ames Research Center, Moffett Field, California*

*Jeffrey C. Smith, Joseph D. Twicken
SETI Institute, Mountain View, California*

*Roland Vanderspek
Kavli Institute for Astrophysics and Space Science, Massachusetts Institute of Technology,
Cambridge, Massachusetts*

*John P. Doty
Noqi Aerospace Ltd, Billerica, Massachusetts*

*Eric B. Ting
Ames Research Center, Moffett Field, California*

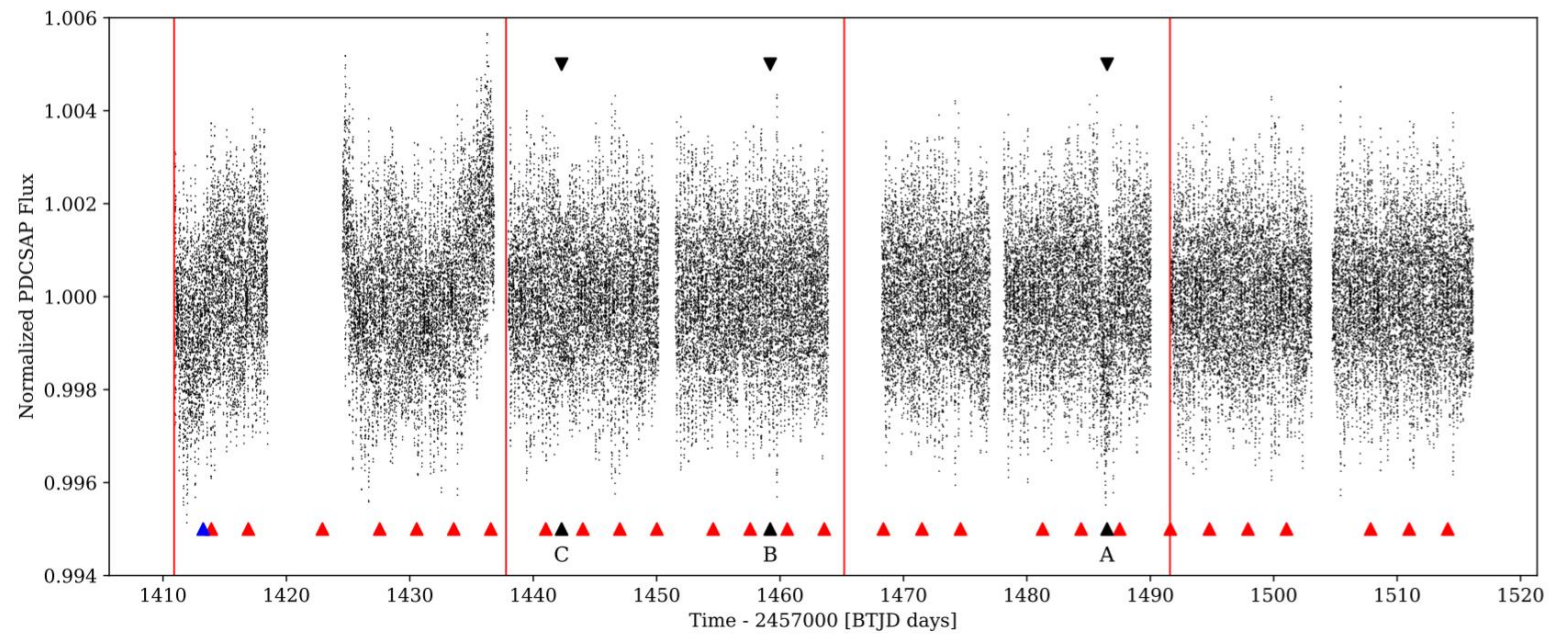
*Joel S. Villaseñor
Kavli Institute for Astrophysics and Space Science, Massachusetts Institute of Technology,
Cambridge, Massachusetts*

February 27, 2019



- Checked Data Release Notes

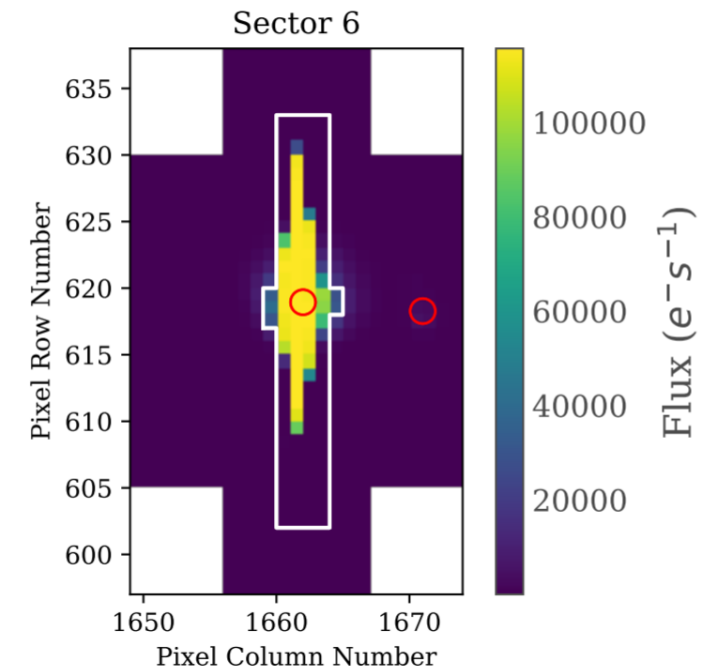
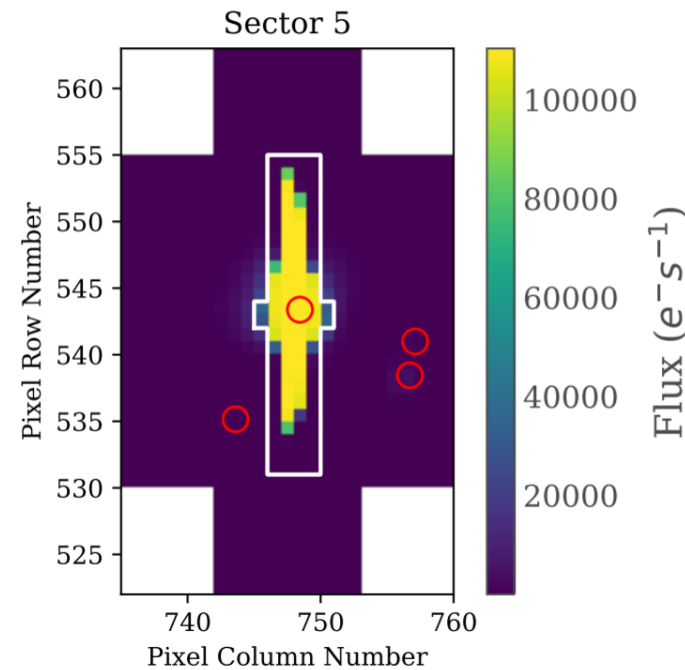
- Checked instrumental effects (momentum dumps, ...)

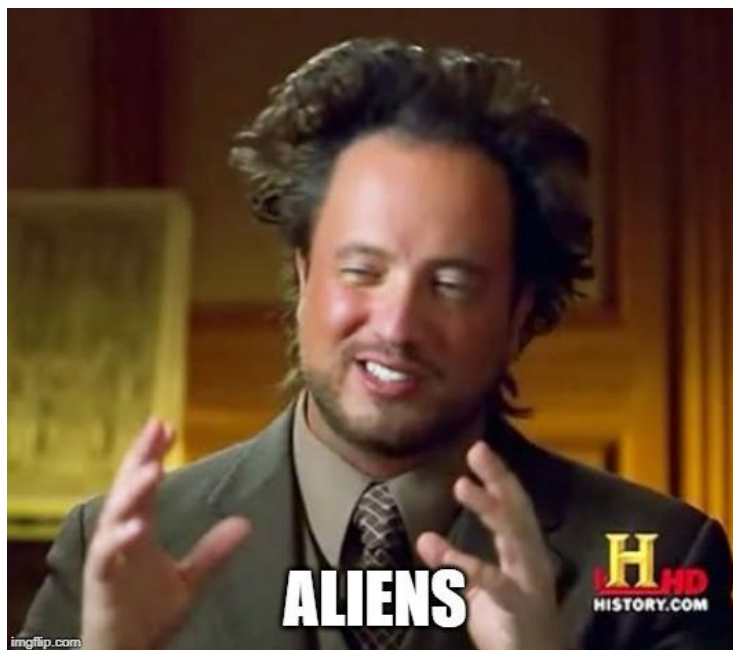
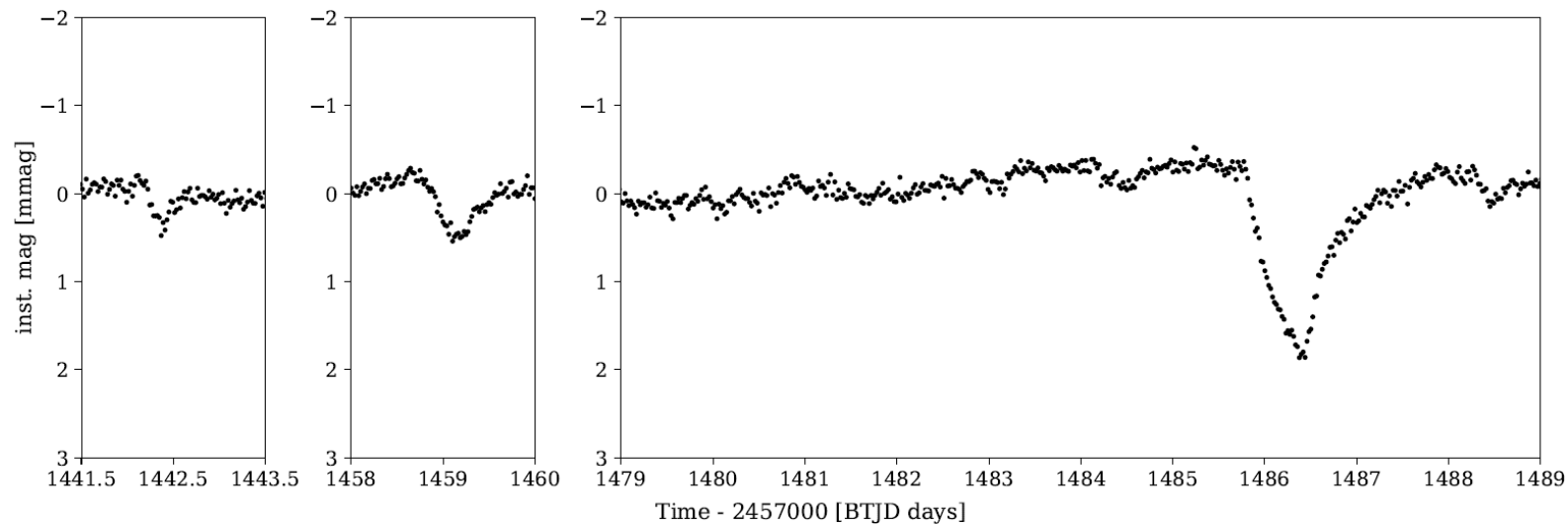


- Checked Data Release Notes

- Checked instrumental effects (momentum dumps, ...)

- Checked background stars





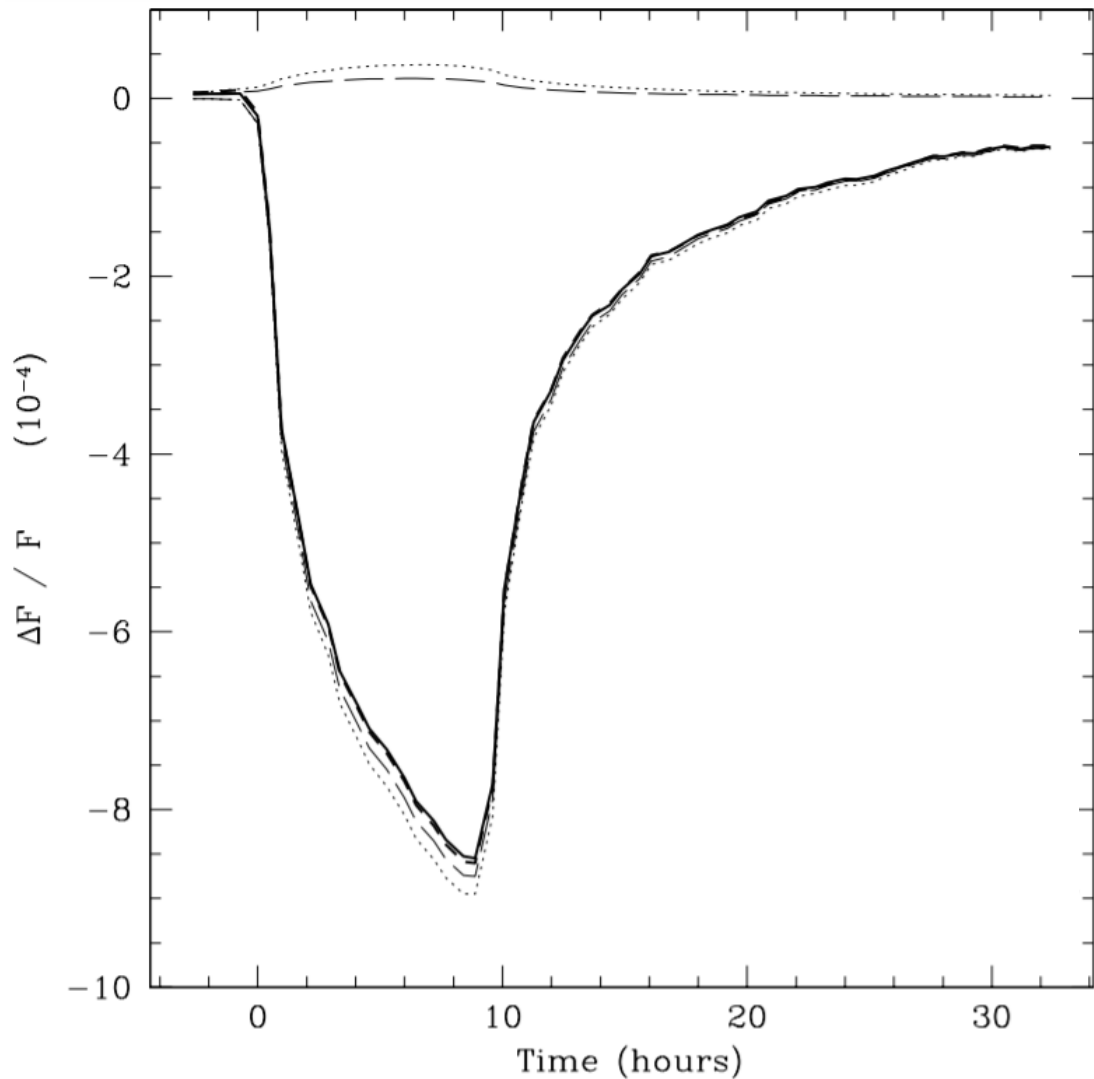
Sebastian Zieba



@CyberZieba



A. Lecavelier des Etangs et al. 1999



Zieba S., Zwintz, K. Kenworthy, M. A. Kennedy, G. M. 2019, A&A, 625, L13

