

# Ground-based observations for the BRITE-Constellation Satellites

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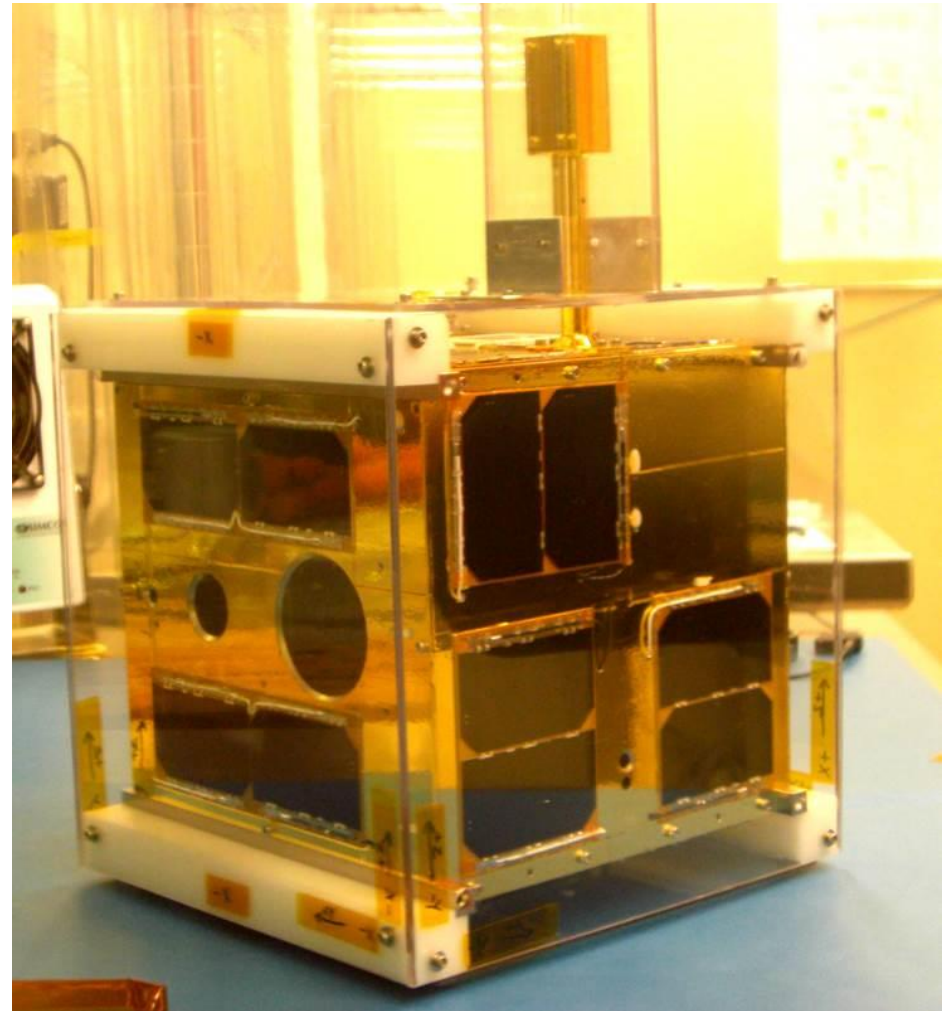
**University of Innsbruck**

# Outline

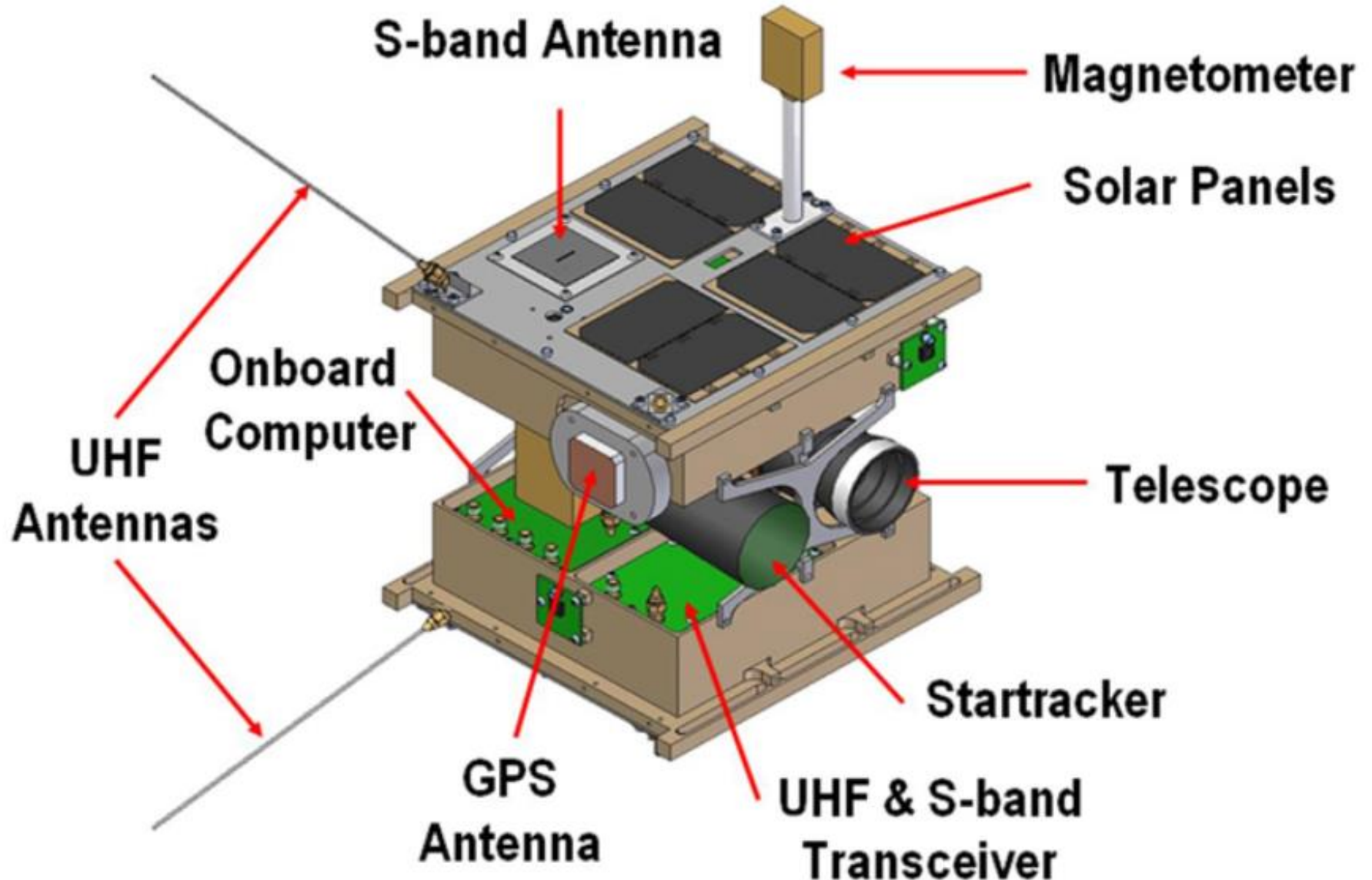
- Characteristics the BRITE-Constellation satellites
- Scientific cases
- What are ground-based observations (GBOT) are needed for?
- How does GBOT work

# BRight Target Explorer (BRITE)

- Bright stars < 6 mag
- 400 - 450nm
- 550 - 700nm
- All sky
- Aperture: 3 cm
- Size: 20x20x20 cm
- Five in orbit
- First: 25.02.2013



# BRITE - Satellite



# BRITE - Satellites

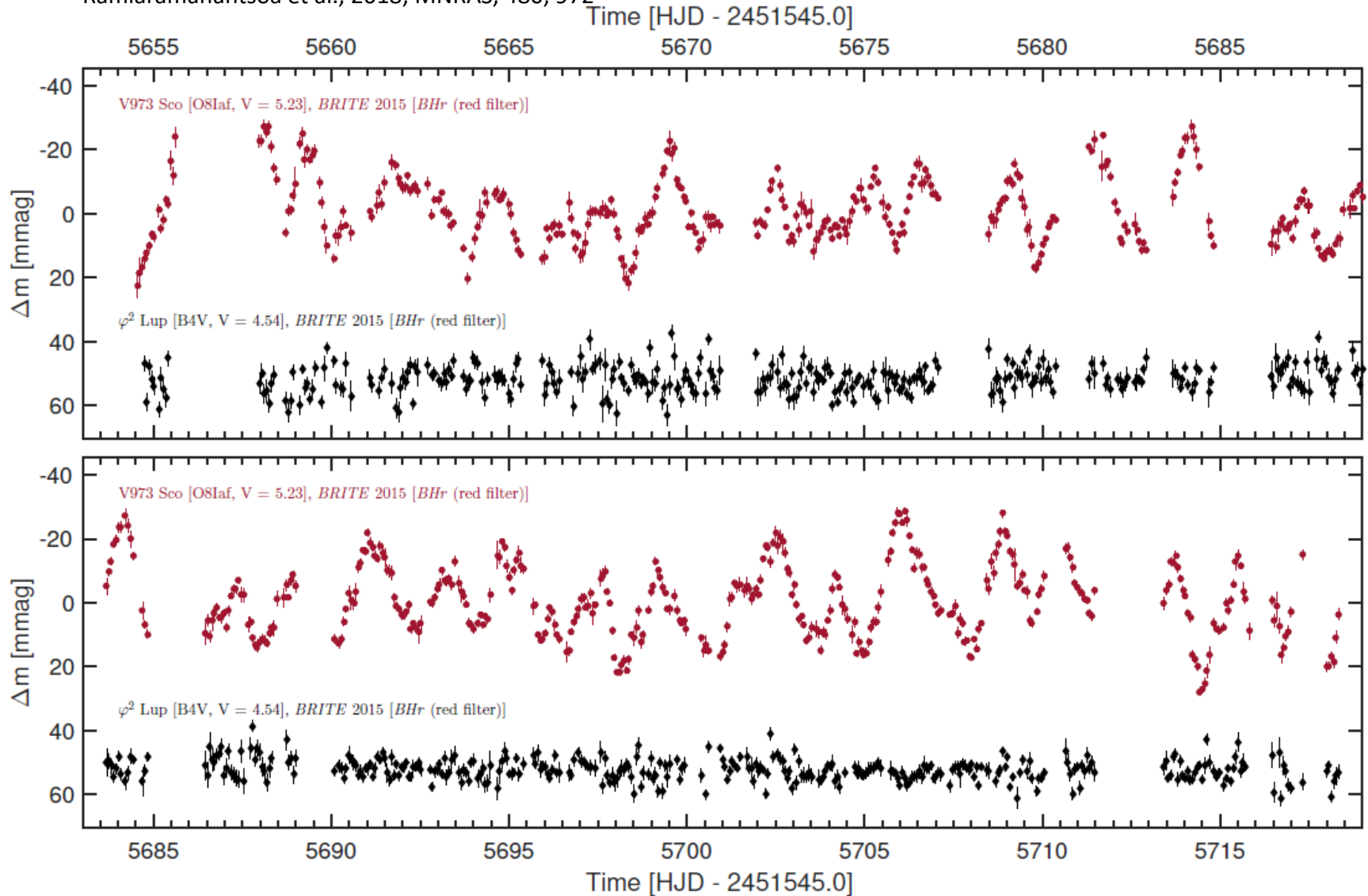
Country	Satellite Name	ID	Launch	Orbit-P(min)	Filter
<b>AUT</b>	<b>UniBRITE</b>	<b>UBr</b>	<b>2013-02-25</b>	<b>100.37</b>	<b>red</b>
<b>AUT</b>	<b>BRITE-Austria 'TUG-SAT-1'</b>	<b>BAb</b>	<b>2013-02-25</b>	<b>100.36</b>	<b>blue</b>
<b>POL</b>	<b>BRITE-PL2 'Heweliusz'</b>	<b>BHr</b>	<b>2014-08-19</b>	<b>97.10</b>	<b>red</b>
<b>POL</b>	<b>BRITE-PL1 'Lem'</b>	<b>BLb</b>	<b>2013-11-21</b>	<b>99.57</b>	<b>blue</b>
<b>CAN</b>	<b>BRITE-CA1 'Toronto'</b>	<b>BTr</b>	<b>2014-06-19</b>	<b>98.24</b>	<b>red</b>
<b>CAN</b>	<b>BRITE-CA2 'Montreal'</b>	<b>BMb</b>	<b>2014-06-19</b>	<b>n/a</b>	<b>blue</b>

# BRITE Photometry Wiki

- <http://brite.craaq-astro.ca/doku.php>
- Past, ongoing, and future **BRITE observations**
- **Description** of Photometry **Pipeline(s)**
- **Cookbook**: how to work with BRITE data

# Science with BRITE

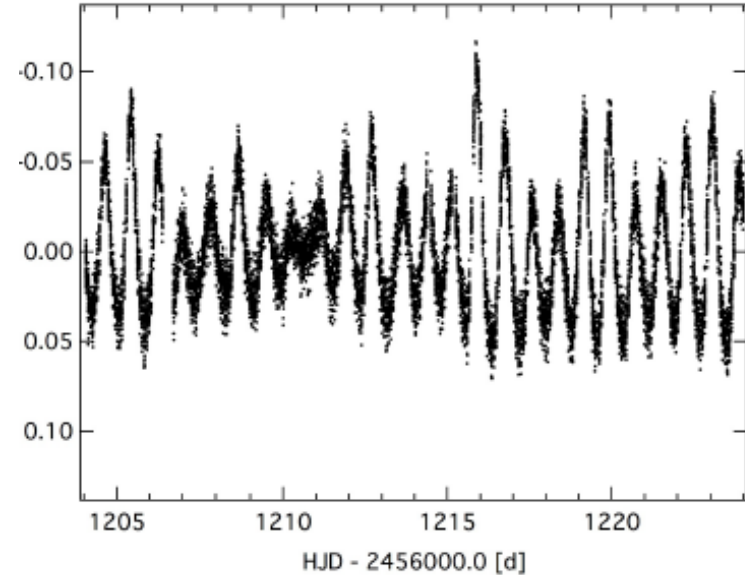
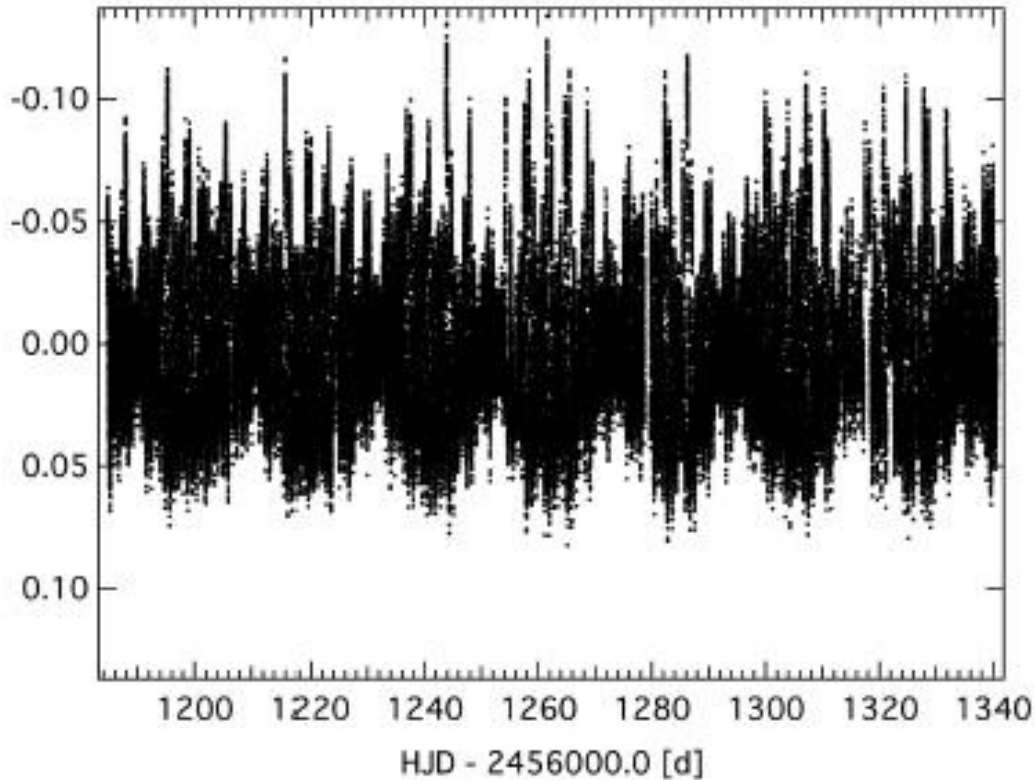
Ramiaramanantsoa et al., 2018, MNRAS, 480, 972



Stochastically-triggered photospheric light variations

# Science with BRITE

Zwintz et al., 2017, A&A, 608, A103



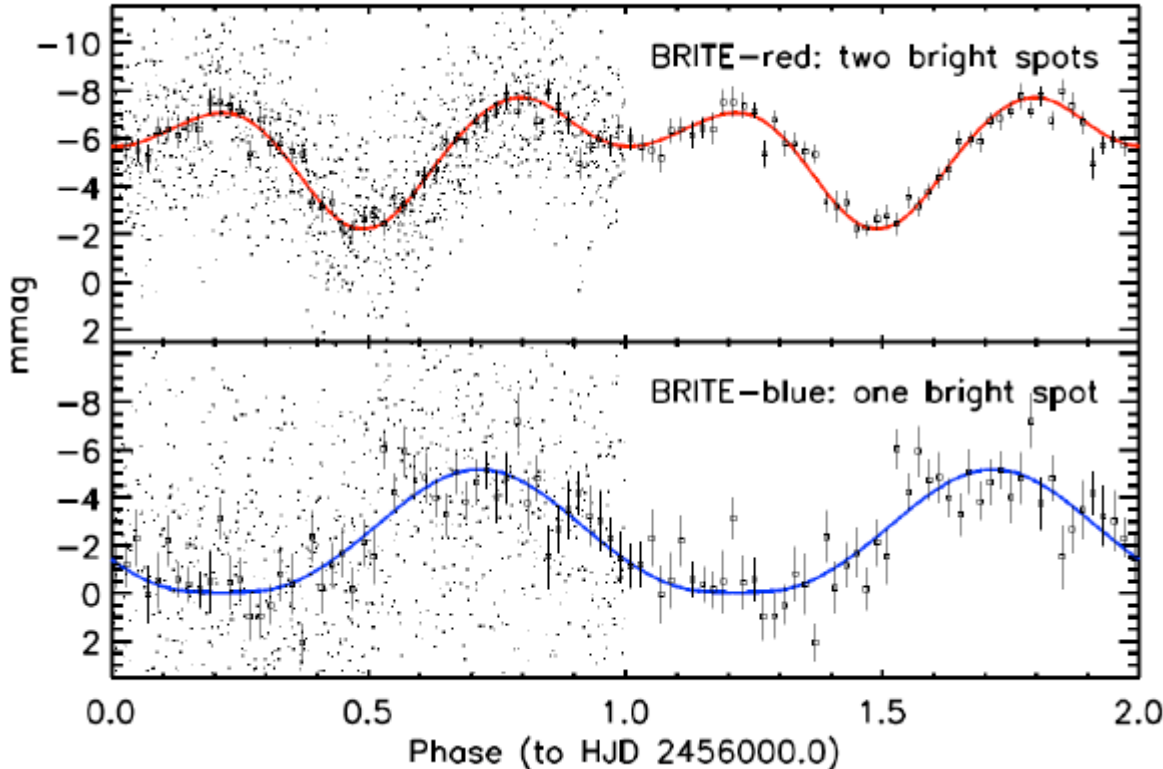
$\gamma$  Doradus pulsation – 43 frequencies detected,  
g-mode period spacings => near-core rotation



# Science with BRITE

Weiss et al., 2016, A&A, 588, A54

$P = 4.479d$



rapidly oscillation  
Ap (roAp) star with  
surface spots

Data	Frequency ( $\mu\text{Hz}$ )	Amplitude (mmag)	Phase (0-1)	Sig
	Frequency $f_1$			
red BRITE	[ 2442.0574 ]	0.545(47)	0.191(14)	33.2
blue BRITE	2442.0574(31)	1.72(10)	0.165(09)	63.1

# What is needed?

**Photometric, polarimetric,**  
and **spectroscopic**  
observations

**Before, during, and after** the  
BRITE observations

**GBOT Website: Main Page**

**[www.brite-constellation.at](http://www.brite-constellation.at)**

# Aims of BRITE-Constellation GBOT

- **Support collaborations** between BRITE PIs and ground-based observers worldwide
- Provide **platform** for **exchange of information**
- **Coordinating function**

# Information on GBOT Webpage

- **Overview** of **ground-based observations** for completed, ongoing and future BRITE observations
- Ground-based **observing proposals** for BRITE targets
- **Sub-teams** of BRITE GBOT and their PIs
- List of **ground-based facilities** that **already contributed** with ground-based observations
- **Information** from **archives, databases**, and the **literature**
- Other relevant information (e.g. **publications**)
- List of **BRITE GBOT members**

Input? Comments? Feedback?

You want to join BRITE GBOT?

Contact

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