Stefano Bellotti

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Current position

2020 - present — Ph.D. student at the Institut de Recherche en Astrophysique et Planétologie (IRAP), Université Toulouse III - Paul Sabatier, Toulouse, France

Title: "Searching new worlds with SPIRou: tackling stellar activity"

Supervisors: Pascal Petit (IRAP), Julien Morin (LUPM), Gaitee Hussain (ESTEC-ESA)

2022 - present — Visiting trainee researcher at European Science and Technology Research Centre (ESTEC-ESA)

Education

2017 - 2019 — MSc in Astrophysics, Niels Böhr Institute, University of Copenhagen, Denmark.

Title: "Stellar activity induced detection limits for habitable zone planets around a representative sample of known planet hosts"

Supervisor: Heidi Korhonen

Grade: A

2013 - 2017 — BSc in Physics, Physics Department, University of Pavia, Italy.

Title: "Measurement of Planck's constant for didactic purposes: comparison of possible methodologies"

Supervisor: Anna de Ambrosis

Grade: 104/110

Publications

Martioli E., +5 others, **Bellotti** S., +53 others, "*TOI-1759 b: a transiting sub-Neptune around a low mass star characterized with SPIRou*", Astronomy & Astrophysics, 660, A86.

Bellotti S., Petit P., Morin J., Hussain G. A. J., Folsom C., "*Mitigating stellar activity jitter with different masks for least-squares deconvolution: Analysis of a parametric and a randomised line selection*", 2022, Astronomy & Astrophysics, 657, A107.

Bellotti S. and Korhonen H. "*Simulating starspot activity jitter: realistic estimates for a representative sample of known F--M exoplanet hosts*", 2021, Astronomische Nachrichten, 342:926-940.

Bellotti S., Zabludoff A., Belikov R., Guyon O., Rathi C. "*Detecting Exoplanets Using Eclipsing Binaries as Natural Starshades*", 2020, The Astronomical Journal, 160, 131.

Stritzinger, +4 others, **Bellotti**, +4 others, 2018, "Transient Classification Report for 2018-08-16".

Fynbo, Ardevol Martinez, **Bellotti**, +3 others, 2018, "Transient Classification Report for 2018-08-30".

Observing experience and proposals

-PI of SPIRou and ESPaDOnS@Canada-Hawaii-France proposal for 26.7 hours in semester 2022B.
-PI of SPIRou@Canada-Hawaii-France proposal for 7.2 hours in semester 2021B.
-PI of NEO-NARVAL@Telescope Bernard-Lyot proposal for 119.8 hours in semester 2021A.

Nov 2021	Service mode operation for 8 nights at Telescope Bernard-Lyot.
Aug 2018	MSc course "Observational Astronomy": observing, data reduction with IRAF and analysis for 7 nights at Nordic Optical Telescope, La Palma, Spain.

Conference participation

May 2022	Poster presentation at the EXOPLANET IV conference, Las Vegas, US, with the title: "*Mitigating stellar activity jitter with a parametric and a randomised line selection for least-squares deconvolution*".

Oct 2021	Poster presentation at the Star-Planet Connection online conference with the title: "*Simulating starspot activity jitter for spectral types F–M: realistic estimates for a representative sample of known exoplanet hosts*".
Mar 2021	Poster presentation at the CoolStars20.5 online conference with the title: "*Spectropolarimetry in optical and near-IR for EV Lac and AD Leo: what is stellar activity's favourite colour?*".
Aug 2020	Presentation at the Lunar and Planetary Laboratory Conference, Tucson, Arizona, US (held online) with the title: "*Detecting Extrasolar Planets Using Eclipsing Binaries as Natural Starshades*".
May 2019	Poster presentation at the Annual Danish Astronomy Meeting, Nyborg, Denmark with the title: "*Hunting exoplanets: detection limits due to starspots*".

Scientific formation work

Apr 2022	Co-chair of the Holland-Area Exoplanet Science Meeting (HAESM), a one-day event held in hybrid format at ESTEC-ESA, Noordwijk, Netherlands.
Dec 2020 - May 2021	Member of the organizing team of the "PhD Day 2021": a one-day event dedicated to PhD students to showcase their research and foster collaborations. Held online, Toulouse, France.
Sep 2020 - Dec 2020	Member of the editing team of the "*Newcomer's guide at IRAP*": a problem-solving document to describe all aspects of the PhD student's life at IRAP, Toulouse, France.

Coding

Python	Upper intermediate: cluster usage and astronomical packages (AstroPy, PyRAF, Pyfits, Astroquery)
C++	Basic (didactic) level
Office suite	Upper intermediate

Language

Italian	Native
English	Fluent in both spoken and written (IELTS level C1, 2017)
French	B1