

B.Sc. Juan Sebastián Castellanos-Durán

Curriculum Vitae

Profile

As a young researcher interested in astrophysics and its applications, especially in those related to solar physics, I have acquired excellent physics concepts and tools, such as, data analysis, computer programming, experimental techniques, and a logical-mathematical way of thinking. In addition, I have developed linguistic (English, German), observational (telescopes) skills and data analysis (IDL-SSW). All of those tools and skills are essential to do research in the fields of astronomy and solar physics. Therefore, the devotion to the research, responsibility, creativity, autonomy to develop research projects and team work are a priority for me.

Education

Ago 2014 - present **Graduate student - Master of Science in Astronomy**

Observatorio Astronómico Nacional

Universidad Nacional de Colombia, Bogotá - Colombia

2008 - 2013 **Bachelor of Science in Physics**

Five years program - Graduation April 23, 2014

Universidad Nacional de Colombia, Bogotá - Colombia

G.P.A. 4.1/5.0

Senior thesis ***Study of the excess in White-Light during Solar Flares via the Backwarming model***

Supervisor Benjamín Calvo-Mozo

Observatorio Astronómico Nacional - Universidad Nacional de Colombia, Colombia

External Juan Carlos Martínez Oliveros

advisor Space Sciences Laboratory - University of California, Berkeley. CA, U.S.A.

Academic Experience: Schools, Workshops and Seminars

Dec 8-12, 2014 **Participant**, Primera Escuela Andina de Astronomía y Astrofísica: Visión Moderna de la Cosmología (EAAA).

Escuela Politécnica Nacional. Quito, Ecuador

Aug 25-Sep 5, 2014 **Participant & LOC**, Guillermo Haro 2014: Advanced School on Integral Field Spectroscopy Techniques and Analysis.

Instituto Nacional de Astrofísica, Óptica y Electrónica - INAOE. Puebla, Mexico

Jun 17-Aug 23, 2014 **Summer Internship in Astrophysics and Astronomical Instrumentation at INAOE**

Instituto Nacional de Astrofísica, Óptica y Electrónica - INAOE. Puebla, Mexico

- 2013 - 2014 **Book - Editor's assistant**, Astronomía para todos. Retos modernos de una ciencia milenaria. Editor Benjamín Calvo-Mozo - 19 Authors. **ISBN 978-958-761-656-9**
Observatorio Astronomico Nacional - Universidad Nacional de Colombia
- Jun 24-Aug 30, 2013 **The 2013 IRIS Student Summer Intern Research Program**
Stanford University and Lockheed Martin Solar and Astrophysics Laboratory. CA, U.S.A.
- Jul 2 - 21, 2012 **International Summer School – Solar Astrophysics: Modern Trends and Techniques**
Observatorio Astronomico Nacional - Universidad Nacional de Colombia
- May 28 - 1, 2012 **Fourth School in Physical Mathematics: Quantum Integrable Systems**
Universidad de los Andes. Bogotá, Colombia
- Sept 12 - 16, 2011 **First Workshop on Statistical Physics**
Universidad de los Andes and Universidad Nacional de Colombia
- Aug 9 - 11, 2010 **Extragalactic Astronomy School**
Observatorio Astronomico Nacional - Universidad Nacional de Colombia

Conferences, Presentations, Posters & Proceedings

- May 25-28, 2015 **Contributed Talk**, Vector magnetic field changes during flares using SDO/HMI data.
2015 J.S. Castellanos-Durán, L. Kleint & B. Calvo-Mozo.
3rd SOLARNET Workshop: "Polarization in the Sun, the Solar System, and Beyond"
Granada, España
- Dec 1 - 5 2014 **Contributed Talk and proceedings**, El modelo del Backwarming y un nuevo método observacional para entender los flares que emiten luz blanca
J.S. Castellanos-Durán, & B. Calvo-Mozo.
IV Congreso Colombiano de Astronomía y Astrofísica (COCOA 2014) - Universidad de Nariño. March, 2015. Vol 6 No. 1-2 FACIEN. ISBN 2256-3830
- Dec 1 - 5 2014 **Contributed Talk and proceedings**, Cambios tipo Heavyside durante flares: Análisis de la componente en la línea de la visual y el vector campo magnético
J.S. Castellanos-Durán, L. Kleint & B. Calvo-Mozo.
IV Congreso Colombiano de Astronomía y Astrofísica (COCOA 2014) - Universidad de Nariño. March, 2015. Vol 6 No. 1-2 FACIEN. ISBN 2256-3830
- Dec 1 - 5 2014 **Contributed Talk and proceedings**, ¿Qué sabemos de las galaxias?: comparación de propiedades integradas vs. espacialmente resueltas usando espectroscopía de campo integral
J.S. Castellanos-Durán, & F.F. Rosales-Ortega
IV Congreso Colombiano de Astronomía y Astrofísica (COCOA 2014) - Universidad de Nariño. March, 2015. Vol 6 No. 1-2 FACIEN. ISBN 2256-3830
- Jun 9 - 13, 2014 **Poster**, White-Light Flares: A proposed improvement to known classic reduction methods.
J. S. Castellanos-Durán, J.D. Alvarado-Gomez, W. G. Fajardo-Mendieta & B. Calvo-Mozo
Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun "CoolStars 18". U.S.A.
- Aug 30, 2013 **Poster**, Cluster analysis for two solar physics problems: Stokes parameters & NUV spectra.
J. S. Castellanos-Durán & L. Kleint.
The 2013 IRIS Student Summer Intern Research Program - Stanford University and Lockheed Martin Solar and Astrophysics Laboratory. Palo Alto - CA, U.S.A.

- Nov 27 - 2, 2012 **Contributed Talk**, Characterization of white light, SXR and HXR kernels emissions in white light flares observed by SDO/HMI and RHESSI.
J.S. Castellanos-Durán, J.D. Alvarado-Gomez & B. Calvo-Mozo.
12th RHESSI Workshop: Solar in Sonoma. Tracing the Connections in Solar Eruptive Events. University of California, Berkeley - NASA. Petaluma - CA, U.S.A.
- Dec 3 - 7, 2012 **Poster**, Characterization of white light, SXR and HXR kernels emissions in white light flares observed by SDO/HMI and RHESSI.
J.S. Castellanos-Durán, J.D. Alvarado Gomez, J.C. Martinez Oliveros, J.C. Buitrago-casas, Benjamin Calvo-Mozo.
American Geophysical Union - AGU Fall Meeting. San Francisco - CA, U.S.A.
- Jul 2 - 21, 2012 **Poster**, Study of the white light and hard X-rays emission of the M6.6 class flare of February 18 2011 using SDO/HMI and RHESSI.
J. S. Castellanos-Durán, J. D. Alvarado-Gómez, J.C. Martínez Oliveros & B. Calvo-Mozo.
International Summer School in Solar Astrophysics: Modern Trends and Techniques
- Aug 29 - 31, 2012 **Contributed Talk and proceedings**, Caracterización de la emisión en luz blanca y en rayos-X de la fulguración GOES M6.6 del 18 de Febrero de 2011 usando SDO y RHESSI.
J.S. Castellanos-Durán, J.D. Alvarado-Gomez & B. Calvo-Mozo.
Encuentro Nacional de investigación y desarrollo National (ENID 2012)
ISBN 978-958-761-308-7 - Universidad Nacional de Colombia.
- Dec 5 - 9, 2011 **Poster**, Observational Analysis of Photospheric Magnetic Field Restructuring During Energetic Solar Flares.
J.D. Alvarado, J.S. Castellanos, J.C. Buitrago, J.C. Martínez, C.Lindsey, W.P. Abbett & G.H. Fisher.
American Geophysical Union - AGU Fall Meeting 2012. San Francisco - CA, U.S.A.
- Aug 3 - 6, 2010 **Attended**, II Congreso Colombiano de Astronomía y Astrofísica (COCOA 2010)
Observatorio Astronomico Nacional - Universidad Nacional de Colombia.

Languages

Spanish **Mother tongue**

English **C1**

Perfect reading, listening and conversationally fluent

German **A2**

Learning

Computer skills

- Basic Operative systems (Linux, Mac OS, Windows)
- Intermediate \LaTeX , Beamer, OpenOffice, Office.
- Advanced IDL, SSWIDL, Python, IRAF, Mathematica.

References

- Benjamín Calvo-Mozo** **Associate Professor, Observatorio Astronómico Nacional (OAN).**
Universidad Nacional de Colombia, Bogotá - Colombia.
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Fabián Tenure track Researcher, Instituto Nacional de Astrofísica Óptica y Electrónica
Rosales Puebla, Mexico
Ortega frosales@inaoep.mx
Julian David Ph.D. Student, European Southern Observatory (ESO).
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