

Part A. PERSONAL INFORMATION

CV date 09/01/2020

First and Family name	Juan Carlos Suárez Yanes		
Social Security, Passport, ID number		Age	
Researcher codes	WoS Researcher ID (*)	C-1015-2009	
	SCOPUS Author ID(*)	8928510700	
	Open Researcher and Contributor ID (ORCID) **	0000-0003-3649-8384	

(*) At least one of these is mandatory

(**) Mandatory

A.1. Current position

Name of University/Institution	Universidad de Granada		
Department	Física Teórica y del Cosmos		
Address and Country	Campus Fuentenueva s/n, 18071 Granada, Spain		
Phone number	E-mail	jcsuarez@ugr.es	
Current position	Ramón y Cajal	From	15/12/2014
Key words	Astrofísica, Física Estelar, Astrosismología, Rotación Estelar		

A.2. Education

PhD	University	Year
Astrophysics & Space Science	Denis Diderot (Paris 7), France	2002

A.3. JCR articles, h Index, thesis supervised...

No. Publications (total): 186; No. Citations (total): 3925; No. Publications (Q1): 82; No citations (Q1): 3390; h-index = 32; i10-index = 71 (metrics source: ADS)

No. edited Books: 1; No. thesis advised: 4; No. ongoing thesis: 2

I have given 6 invited reviews and organized 2 international conference (edited book). I've been granted with 4 founded (AYA) projects (139.500+157.300+25.000+13.000 euros) and 1 FP7 project (Spaceln) as responsible of beneficiary institution (IAA-CSIC).

Part B. CV SUMMARY (max. 3500 characters, including spaces)

I have been awarded with a Ramón y Cajal fellowship by the Spanish Ministry of Science for a 5-year senior post-doc at the University of Granada (Spain). There I am building a research group focusing on one of the principal challenges of the stellar physics: understanding the angular momentum transport in stellar interiors. I tackle this problem using asteroseismology, which allows probing the internal layers of stars. I develop this research in three main aspects: rotation-pulsation interaction, mode identification, and analysis of lightcurves. In addition, I have started a new research line which studies the impact of stellar rotation on planetary dynamics. This new research line opens promising opportunities for the future exploitation of the PLATO2.0 space mission.

I developed the oscillation code FILOU during my PhD, which is the only code based on perturbative theory that properly corrects the oscillation frequencies from the effects of rotation. This allowed me to publish numerous asteroseismic analyses on rotating stars and opened collaborations with research teams working on non-perturbative methods. Recently, with my PhD student A. García Hernández we discovered and characterized periodicities in the oscillation spectra of A-F stars allowing to determine their mean densities (recently confirmed with binary stars). With my PhD student J. Pascual-Granado we have developed a method to



properly fill the gaps in lightcurves time series (specially for space missions) and discovered inconsistencies in the harmonic analysis (recently accepted) which, in case of further correction, may lead in a significant step in the proper analysis and interpretation of stellar lightcurves.

All these activities are developed within ground-based instruments and space missions: the CoRoT (CNES-ESA), Kepler (NASA), and PLATO (ESA, M3) projects in which I am strongly involved with several responsibilities: member of the PLATO Mission Consortium Board; responsible of three WP, including the coordination of the design and development of the instrument's main electronic units (MEU); UGR responsible of the asteroseismology science in CARMENES project. PI of a project for PLATO activities (see below) funded by the Spanish MINECO. I am also Scientific Responsible of the TOUCAN project within Spanish VO project (CAB-CSIC).

Part C. RELEVANT MERITS

C.1. Publications (including books)

- #(A,2020) F.J. Pozuelos, J.C. Suárez, G.C. De Elía et al. (2/10) "*GJ 273: on the formation, dynamical evolution and habitability of a nearby planetary system hosted by a M-dwarf*" accepted in A&A
- #(A,2019) J.R. Jenkins, F.J. Pozuelos, M. Tuomi, et al. (incl. J.C. Suárez), (55/59) "*GJ 357: A low-mass planetary system uncovered by precision radial-velocities and dynamical simulations*" MNRAS 490, 5585
- #(A,2019) S. De Francis, J. Pascual-Granado, J.C. Suárez, et al. "*Physical insights on fractal analysis applied to light curves δ Scuti stars*", MNRAS 487, 4457
- #(A,2019) M.N. Günther, et al. (incl. J.C. Suárez), (55/60) "*A super-Earth and two sub-Neptunes transiting the nearby and quiet M dwarf TOI-270*", Nature Astronomy 3, 1099
- #(A,2019) J.C. Morales et al. (incl. J.C. Suárez), (34/38), "*A giant exoplanet orbiting a very-low-mass star challenges planet formation models*", Science 365, 1441
- #(A,2018) J. Pascual-Granado, J.C. Suárez, R. Garrido, et al. "*Impact of gaps in the asteroseismic characterization of pulsating stars. I. The efficiency of pre-whitening*", A&A 614, 40A
- #(A,2017) A. García Hernández, J.C. Suárez, A. Moya, et al. "*Precise surface gravities of δ Scuti stars from asteroseismology*", MNRAS 471, L140
- #(B,2017) A. Moya, J.C. Suárez, A. García Hernández, M.A. Mendoza, "*Semi-empirical seismic relations of A-F stars from COROT and Kepler legacy data*", MNRAS, 471, 2491
- #(A,2015) J. Pascual-Granado, R. Garrido, & J.C. Suárez (3/3) "*MIARMA: A minimal-loss information method for filling gaps in time series. Application to CoRoT light curves.*", A&A 575, A78 – A86
- #(A,2015) A. García Hernández, S. Martín Ruiz, J.P.F.G. Monteiro, J.C. Suárez, et al. "*Observational Δv - ρ Relation for δ Sct Stars using Eclipsing Binaries and Space Photometry*", ApJL 811, L29

C.2. Research projects and grants

- (01/01/2018 – 31/12/2019), "*Contribution of UGR in the space mission PLATO2.0. Phases B2/C/D*". ESP2017-87676-C5-2-R. Funding entity: MINECO. IP: **J.C. Suárez**. Total amount: 139,500 €.
- (01/01/2016 – 31/12/2017, ext 31/12/2018), "*Contribution of UGR in the space mission PLATO2.0. Phases B2/C*". ESP2015-65712-C5-5-R. Funding entity: MINECO. IP: **J.C. Suárez**. Total amount: 157,300 €.



- (16/05/14 - 15/05/18) “*Contribución Andaluza al proyecto espacial CoRoT*”. P12-TIC-2469. Funding entity: Junta de Andalucía local Government. **IP**: R. Garrido. Participation: Collaborator. Total amount: 259,745 €.
- (01/01/13 - 31/12/15) “*Participación española en CoRoT*”. AYA2012-39346-C02-01. Funding entity: Spanish Ministry of Science. **IP**: R. Garrido (IAA-CSIC), Participation: collaborator. Total amount: 160,000 €.
- (01/10/2012 - 30/09/2016) “*Exploitation of space data for innovative helio- and asteroseismology (SPACEINN)*”. FP7-SPACE-2012-1. Coordinator: Markus Roth (Freighburg University, Germany). Participation: **IP of beneficiary institute IAA-CSIC**. Total amount: 1,994,615 €.
- (01/01/2012 - 31/12/2014) “*CARMENES-IAA: design and construction of the NIR channel, characterisation of the simple and asteroseismology*”. AYA2011-30147-C03-01. Funding entity: Spanish Ministry of Economy & Competitiveness. **IP**: P.J. Amado. Participation: Collaborator. Total amount: 551,400 €.
- (01/01/2011 - 31/12/2011). “*Contribution of IAA to PLATO*”. AYA2010-12030-E. Funding entity: Spanish Ministry of Science. **IP**: **J.C. Suárez** (IAA-CSIC). Total amount: 25,000 €.

C.3. Contracts

- 2014-19 Ramón y Cajal Fellowship. Reference: RYC2012. Univ. de Granada.
- 2014 Post-doc. Project AYA2012-39346-C02-01. **IP**: Rafael Garrido. IAA-CSIC.
- 2011-13 Post-doc. Project AYA2012-20982-C02-01. **IP**: Rafael Garrido. IAA-CSIC.
- 2006-13 Post-doc. CSIC-I3P fellowship. IAA-CSIC
- 2005-06 Post-doc. Specialization of doctors out from Andalucía fellowship. Junta de Andalucía local Government. Observatoire de Paris-Meudon

C.5 PhD advisory, research works and teaching

From 2014 up to date, I have been lecturer at UGR at (1) Grado de Geología (375 h), (2) Grado de Física (15 h), (3) Master en Astrofísica (47h). In this period I supervised 8 TFG and 14 TFM.

- 2019- PhD thesis advisor (ongoing). Roque Caballero Navarro “*Efectos de la rotación en la evolución de estrellas de baja masa*”. Universidad de Granada
- 2019- PhD thesis advisor (ongoing). Federico Zuccarino “*Estudio de propiedades físicas y astrosimológicas de estrellas de tipo espectral A-F pulsantes usando técnicas de inteligencia artificial*”. Universidad de Granada.
- 2016 PhD thesis advisor. José Ramón Rodón Ortiz “*Portabilidad de aplicaciones en astronomía a la infraestructura de computación Grid*”. Sobresaliente Cum Laude. Universidad de Granada, Spain.
- 2014 PhD thesis advisor. Javier Pascual Granado. “*Inconsistencias en el análisis armónico de estrellas pulsantes observadas desde satélite*”. Sobresaliente Cum Laude. Universidad de Granada, Spain.

C.6 Comités Internacionales

- 2014 - Member of the PLATO2.0 Mission Board
- 2013/14 Member of the Time Allocation Committee of Calar Alto Observatory
- 2013 - OPTICON external evaluator

C.7 Comités de evaluación de la actividad científica

- 2015/16 Member of the ESO- OPC
- 2015 - External reviewer member of the Polish National Science Centre



- 2011 - External reviewer member of the Belgian National Scientific Research System (FNRS)
- 2008 - Reviewer of international peer-review journals: ApJ, AJ, A&A, Ap&SS, and MNRS

C.8 Participación en equipos/grupos de investigación

- 2017/19 International ISSI team. SoFAR (Seismology of Fast Rotating stars) <http://www.issibern.ch/teams/sofar/>
- 2015 - TESS Asteroseismology Science Consortium (TASC). International team for the asteroseismic exploitation of the TESS data.
- 2014 - PLATO Data Center (PDC) and PLATO Science Management (PSM) teams for preparation of the data analysis and Science, respectively.
- 2007 - Kepler Asteroseismology Science Consortium (KASC). International team for the asteroseismic exploitation of the Kepler data.
- 2006 - CoRoT Delta Scuti Working Group (DSWG). International team for the asteroseismic exploitation of A-F (delta Scuti) stars of the CoRoT mission (CNES, ESA).

C.9 Proyectos tecnológicos

- 2014- PLATO2.0-MEU. I coordinate the activities for the design and development of the Main Electronic Units (onboard image processing).
- 2009 - TOUCAN – The VO gateway for stellar models (<http://svo.cab.inta-csic.es/theory/sisms3/>). Spanish Virtual Observatory project. Scientific Responsible. Main publication (#03). 6 papers published with the tool.

C.10 Sociedades Científicas

- 2015 - Member of the International Astronomical Union (IAU)
- 2009 - Member of the Spanish Astronomy Society (SEA)

C.11 Divulgación

Autor de artículos de divulgación, he participado en actividades de divulgación organizadas por el IAA-CSIC. Co-editor de un CD-ROM de divulgación (detalles en CVN).

C.12 Otros

- 2019 Premio IDEALES 2019, otorgador por el Consejo de Redacción del periódico IDEAL por la participación en el descubrimiento de tres nuevos planetas en el sistema TOI-270 con la misión espacial TESS.
- 2017- Doctor vinculado al IAA-CSIC
- 2009/13 Representante de Personal del Instituto de Astrofísica de Andalucía
- 2011 Miembro fundador de la Plataforma Carta por la Ciencia
- 2009 Miembro fundador de la Plataforma Investigación Digna