

Nicola Astudillo-Defru

nastudillo@ucsc.cl / astrodillo@gmail.com • +56 (4) 1234 5932 • nicola.astudillo.defru (*Skype*)
Departamento de Matemática y Física Aplicadas • Universidad Católica de la Santísima Concepción
Alonso de Rivera 2850 • Concepción • Chile

CURRENT POSITION

Universidad Católica de la Santísima Concepción (UCSC) CONCEPCIÓN, CHILE
Faculty, Department of Mathematics and Applied Physics *Mar '19 – Present*

EDUCATION

IPAG/Université Grenoble Alpes GRENOBLE, FRANCE
Ph.D. in Astrophysics. Graduate with honors *2012 – 2015*

Thesis title: Search for Earth-like planets in the habitable zone of M dwarfs

Advisors: Dr. Xavier Delfosse, Dr. Xavier Bonfils

DAS/Universidad de Chile SANTIAGO DE CHILE
M.Sc. in Astronomy. Graduate with highest honors *2010 – 2012*

Thesis title: Transmission spectroscopy from the ground: the case of HD 209458b

Advisor: Dr. Patricio Rojo

FCFM/Universidad de Chile SANTIAGO DE CHILE
B.Sc. in Astronomy. Graduate with honors *2006 – 2010*

RESEARCH EXPERIENCE

Department of Mathematics and Applied Physics/ UCSC CONCEPCIÓN, CHILE

Astronomy Department/ Universidad de Concepción

A deeper characterization of the radial velocity jitter *Mar '18 – Present*

Effect of stellar magnetic activity on precise radial velocity

- Study on the sensitivity of spectral lines to stellar activity as a function of spectral type
- Understanding the impact of stellar magnetic activity on high-resolution spectra
- Minimize the impact of stellar activity in precise radial velocities

Exoplanet detection and characterization

Radial velocity survey and follow-up to search for and characterize planets around M dwarfs

- Principal Investigator of an ESPRESSO@VLT program to confirm and measure the mass of transiting planets
- Co-Investigator of: A HARPS@3.6La-Silla program to search for radial velocity planets, and to confirm and weight transiting planets (since 2012)
A Chilean program (CNTAC) to characterize transiting warm exo-Jupiters unveiled by TESS
An ESPRESSO@VLT program to search for a trojan sibling for a rocky planet in the habitable zone
- Active member of the TESS (MIT/CfA/NASA) Follow-up Observing Program Working Group: Precise Radial Velocity aiming to derive orbits and masses for the transiting planets

FONDECYT (postdoc 3180063) sponsorship: Dr. Ronald Mennickent Cid

Observatoire Astronomique de l'Université de Genève GENEVA, SWITZERLAND

Exploring exoplanets with cutting-edge spectroscopy *Apr '15 – Dec '17*

Impact of stellar magnetic activity on high-resolution spectra

- Detected new spectral lines showing flux sensitivity to stellar activity
- Studied the shape of spectral lines under the presence of magnetic activity
- Computed radial velocities with minimal variations due to a stellar magnetic cycle

Characterization of exoplanet atmospheres

Survey to detect and study the atmosphere of hot transiting planets using differential, high-resolution spectroscopy

With Dr. Christophe Lovis and the Geneva team

IPAG/Université Grenoble Alpes	GRENOBLE, FRANCE
Characterize the stellar activity of M dwarfs	<i>Jul '13 – Mar '15</i>
<ul style="list-style-type: none"> • Upgraded to redder colors the relationships (C_{ccf}, R_{phot}) to convert the S-index into the R'_{HK}-index • Obtained a relationship to derive the stellar rotation rate from the flux in the Ca II H&K lines. Studied the activity of M dwarfs as a function of their masses • Magnetic activity statistics computed for the (~ 400) M dwarfs in the HARPS sample 	
With Dr. Xavier Delfosse	
IPAG/Université Grenoble Alpes	GRENOBLE, FRANCE
Optimize the radial velocity extraction method	<i>Mar '12 – Jul '13</i>
<ul style="list-style-type: none"> • Implemented a software to compute precise radial velocity by maximum-likelihood with a true stellar template. Disentangle stellar spectra from telluric spectra • Improvement ($\sim 30\%$) of the radial velocity accuracy over the traditional cross-correlation function • Discovered and/or measured the mass of 29 exoplanets (among the less massive ones) from radial velocities computed with the software. Ongoing radial velocity survey (until late 2018) 	
With Dr. Xavier Bonfils	
DAS/Universidad de Chile	SANTIAGO DE CHILE
Transmission spectroscopy from the ground	<i>Sep '10 – Jan '12</i>
<ul style="list-style-type: none"> • Computed the transmission spectrum of HD 209458 b. Independent detection of the exoplanetary atmosphere through the Sodium doublet • Detected new species (Sc and Ca) in the atmosphere of HD 209458b • Novel approach to correct spectra from telluric lines 	
With Dr. Patricio Rojo	
DAS/Universidad de Chile	SANTIAGO DE CHILE
Transmission spectroscopy detection limits	<i>Dec '09 – Mar '10</i>
<ul style="list-style-type: none"> • Studied the detection threshold of a simulated exo-atmospheric signature through the bootstrap method 	
With Dr. Patricio Rojo	
DAS/Universidad de Chile	SANTIAGO DE CHILE
Search for deuterium in the ISM	<i>Dec '09 – Mar '10</i>
<ul style="list-style-type: none"> • Search for Deuterium I in the $Ly - \alpha$ forest of QSO 	
With Dr. Sebastian López	
DAS/Universidad de Chile	SANTIAGO DE CHILE
Radiative transfer in molecular clouds	<i>Aug – Dec '09</i>
<ul style="list-style-type: none"> • Physical and kinematic analysis of a molecular cloud by modeling CS lines with a Monte-Carlo radiative transfer code 	
With Dr. Diego Mardones	

TEACHING EXPERIENCE

Department of Mathematics and Applied Physics/ UCSC	CONCEPCIÓN, CHILE
Lecturer , Kinematics and Dynamics (IN1109C)	<i>Mar '19 – Present</i>
Astronomy Department/ Universidad de Concepción	CONCEPCIÓN, CHILE
Advisor , Paula Gorrini Master Sc. thesis	<i>Mar '18 – Present</i>
“On the origin of the radial velocity signatures in Gl 832: stellar activity or planet?”	
Astronomy Department/ Universidad de Concepción	CONCEPCIÓN, CHILE
Guest Lecturer , Advanced Astrophysics for graduate students	<i>May '18</i>
Observatoire Astronomique de l'Université de Genève	GENEVA, SWITZERLAND
Advisor , Rebecka Sax's Bachelor Sc. thesis	<i>Mar – Jul '17</i>
“Is there an impact of the evaporation of an exoplanetary atmosphere in the activity of the host star?”	
IPAG/Université Grenoble Alpes	GRENOBLE, FRANCE
Advisor Assistant , Florent Villebrun's Master Sc. thesis	<i>Mar – Jul '15</i>
“Characterization of a new algorithm to compute radial velocities”	
DAS/ Universidad de Chile	SANTIAGO DE CHILE
Guest Lecturer , Astronomy Summer School for undergraduate students (FM301-1)	<i>Jan '11</i>

OUTREACH EXPERIENCE

Diario El Sur	CONCEPCIÓN, CHILE
Interview "Astrónomo chileno destaca el valor científico de estudio de los exoplanetas"	Oct '19
Colegio Calasanz	SANTIAGO, CHILE
Oral presentation "Ser...astrónomo"	Sept '19
Eclipse solar total: Sede vecinal de Incahuasi	INCAHUASI, CHILE
Oral presentation "Eclipses...por todas partes!"	Jul '19
Colegio Concepción Pedro de Valdivia	CONCEPCIÓN, CHILE
Oral presentation "Ser...un astrónomo"	Apr '19
Universidad de Concepción	CONCEPCIÓN, CHILE
Oral presentation "Viernes Estelares de Astronomía"	Dec '18
Hospital Guillermo Grant Benavente	CONCEPCIÓN, CHILE
Oral presentation "Descubriendo exoplanetas: aterrizando ideas y conceptos"	Dec '18
EXPLORA-CONICYT	CONCEPCIÓN, CHILE
Oral presentation "XIX Congreso Nacional de Investigación Científica Escolar EXPLORA"	Nov '18
Liceo Manuel Zañartu	CABRERO, CHILE
Oral presentation "Mes de la Ciencia"	Nov '18
Diario El Sur	CONCEPCIÓN, CHILE
Interview "Buscan impulsar el estudio de los exoplanetas desde la UdeC"	Oct '18
Science & Vie (Magazine)	PARIS, FRANCE
Interview "Vie extraterrestre: on sait où chercher"	Oct '18
Lycée Charles de Gaulle (primary school)	CONCEPCIÓN, CHILE
Oral presentation (child audience) "Exoplanets"	Jun '18
The Festival of Science	RENDIBU CAFE / CFM-UDEC
Oral presentation (general audience) "Otros Mundos: cómo buscarlos y algo más"	Jun '18
BBC Interview	BBC MUNDO, NOTICIAS
"¡Y pum, salió el planeta!": cómo un astrónomo chileno lideró el descubrimiento de Ross 128 b, el mundo "vecino" propicio para encontrar vida"	Nov '17
ESO press release	SOUTHERN EUROPEAN OBSERVATORY
Science Release (1736) "Closest Temperate World Orbiting Quiet Star Discovered"	Nov '17
Astrovlog channel	YOUTUBE
Interview "The discovery of the potentially habitable planet LHS 1140b" (6,877 views)	
Discussion "Searching for life in the Universe: Details on LHS 1140b" (4,499 views)	Apr '17
Orion Amateur Astronomy Club	FERNEY-VOLTAIRE, FRANCE
Oral presentation (general audience) "How to discover Exoplanets?"	Dec '16
Oral presentation (child audience) "Phases of the Moon and Venus, eclipses, and exoplanets"	Mar '17
Elementary School Parozet	GEX, FRANCE
Oral presentation (child audience) "The Solar System"	Jan '17
Institut de Planetologie et d'Astrophysique de Grenoble (IPAG)	GRENOBLE, FRANCE
Monitor for general public visits	Jan '12 – Dec '13
French Science-party	PONT DE CLAIX, FRANCE
Monitor for general public visits	Oct '13
Planetarium Astro-party (Oufs d'Astro)	VAULX-EN-VELLIN, FRANCE
Monitor for general public visits	Feb '13
National Astronomical Observatory (OAN)	SANTIAGO DE CHILE
Monitor for general public visits	Mar '10 – Dec '11
Explora CONICYT ("Noticias del Universo")	SANTIAGO DE CHILE
Monitor for general public visits	Oct '09 – Nov '09

CONFERENCES AND SEMINARS

Seminars of the Department of Mathematics and Applied Physics at Universidad Católica de la Santísima Concepción	CONCEPCIÓN, CHILE
Oral presentation "Detecting and Characterizing Extra-Solar Planets"	May '19
Workshop on the Transiting Exoplanet Satellite Survey - Chile	SANTIAGO, CHILE
Oral presentation "TESS M dwarfs follow-up"	Apr '19
Seminars of the Astrophysics Institute at Pontificia Universidad Católica de Chile	SANTIAGO, CHILE
Oral presentation "Weighing Planets Around M dwarfs"	Oct '18
Second Binational Meeting AAA-SOCHIAS	LA SERENA, CHILE
Poster presentation "An Earth-like planet in the golden LHS 1140 system"	Oct '18
Workshop on Bayesian Statistics	BERN, SWITZERLAND
Participant	Nov '16
Seminars of the Astronomy Department at Universidad de Concepción	CONCEPCIÓN, CHILE
Oral presentation "Weighing Rocky Exoplanets: Optimized Radial Velocity Extraction & Stellar Activity Limitations"	Jul '17
Workshop on Bayesian Statistics	BERN, SWITZERLAND
Participant	Nov '16
Association of Chilean Researchers in Switzerland (ICES) annual meeting	GENEVA, SWITZERLAND
Oral presentation "Collaborations-experiences in Astronomy between Chile and Switzerland"	May '16
NCCR/Planet-S (Swiss National Science Foundation) general assembly	GRINDELWALD, SWITZERLAND
Participant	Jan '16
Search for Life Beyond the Solar System (EBI)	TUCSON, UNITED STATES
Poster presentation "Ground-Based Detection of Exoatmospheric Calcium" (presented by Dr. Patricio Rojo)	Mar '14
Heidelberg (MPIA) - Grenoble (IPAG) inter-institutes colloquium	GRENOBLE, FRANCE
Participant	Oct '13
French Astronomy and Astrophysics Society (SF2A) annual meeting	MONTPELLIER, FRANCE
Participant	Jun '13
Ph.D. Seminars of IPAG at Université Grenoble Alpes	GRENOBLE, FRANCE
Oral presentation "Transmission spectroscopy from the ground"	May '13
17 th Cambridge Workshop on Cool Stars, Stellar Systems and the Sun	BARCELONA, SPAIN
Poster presentation "Ground-Based Detection of Exoatmospheric Calcium"	Jun '12
Chilean Astronomy Society (SOCHIAS) annual meeting	SANTIAGO DE CHILE
Participant	Jun '11

GRANTS AND AWARDS

GEMINI-CONICYT Fund (N°32190008), Chile	May '20 – May '22
FONDECYT Postdoctoral Fellow (N°3180063), Chile	Mar '18 – Mar '21
Becas Chile scholarship for Ph.D. studies, France	Mar '12 – Mar '15
CONICYT scholarship for M.Sc. studies, Chile	Mar '11 – Jan '12
Gemini-CONICYT scholarship for M.Sc. studies, Chile	Mar '10 – Jan '11
2/591 position in ranking of students at the end of the B.Sc. program	Mar '06 – Jan '10
Distinguished Student Scholar. FCFM, Universidad de Chile	Mar '07 – Jan '08

SKILLS

Technical: My main programming language is PYTHON, including parallelization in CPU (multiprocessing package) and GPU (pycuda package), and MCMC (emcee package). Occasional use of C++, Java, MATLAB/Octave, Mathematica, MIDAS or IRAF. User of L^AT_EX and LibreOffice. Comfortable use of Linux (Debian user), Windows, and MAC OS X.

I am passionate in building and racing quadcopters (first-person-view, aeromodelling). This hobby implies welding of electronic components, configure a flight-controllers and transmitter-receptor radio-frequency systems, or design of carbon frames (quadcopter body).

Natural languages: English (*Professional working proficiency*), French (*Native or bilingual proficiency*), Spanish (*Native or bilingual proficiency*).

PUBLICATIONS

52 refereed papers with 1195 citations. H-index: 19

- Ryan Cloutier, Jason D. Eastman, Joseph E. Rodriguez, **Astudillo-Defru, Nicola**, Xavier Bonfils, Annelies Mortier, Christopher A. Watson, Manu Stalport, Matteo Pinamonti, Florian Lienhard, Avet Harutyunyan, Mario Damasso, David W. Latham, Karen A. Collins, Robert Massey, Jonathan Irwin, Jennifer G. Winters, David Charbonneau, Carl Ziegler, Elisabeth Matthews, Ian J. M. Crossfield, Laura Kreidberg, Samuel N. Quinn, George Ricker, Roland Vanderspek, Sara Seager, Joshua Winn, Jon M. Jenkins, Michael Vezie, Stéphane Udry, Joseph D. Twicken, Peter Tenenbaum, Alessandro Sozzetti, Damien Ségransan, Joshua E. Schlieder, Dimitar Sasselov, Nuno C. Santos, Ken Rice, Benjamin V. Rackham, Ennio Poretti, Giampaolo Piotto, David Phillips, Francesco Pepe, Emilio Molinari, Lucile Mignon, Giuseppina Micela, Claudio Melo, José R. de Medeiros, Michel Mayor, Rachel A. Matson, Aldo F. Martinez Fiorenzano, Andrew W. Mann, Antonio Magazzú, Christophe Lovis, Mercedes López-Morales, Eric Lopez, Jack J. Lissauer, Sébastien Lépine, Nicholas Law, John F. Kielkopf, John A. Johnson, Eric L. N. Jensen, Steve B. Howell, Erica Gonzales, Adriano Ghedina, Thierry Forveille, Pedro Figueira, Xavier Dumusque, Courtney D. Dressing, René Doyon, Rodrigo F. Díaz, Luca Di Fabrizio, Xavier Delfosse, Rosario Cosentino, Dennis M. Conti, Kevin I. Collins, Andrew Collier Cameron, David Ciardi, Douglas A. Caldwell, Christopher Burke, Lars Buchhave, César Briceño, Patricia Boyd, François Bouchy, Charles Beichman, Étienne Artigau, and Jose M. Almenara. A Pair of TESS Planets Spanning the Radius Valley around the Nearby Mid-M Dwarf LTT 3780. *AJ*, 160(1):3, July 2020. doi: 10.3847/1538-3881/ab91c2.
- H. J. Hoeijmakers, J. V. Seidel, L. Pino, D. Kitzmann, J. P. Sindel, D. Ehrenreich, A. V. Oza, V. Bourrier, R. Allart, A. Gebek, C. Lovis, S. N. Yurchenko, **Astudillo-Defru, N.**, D. Bayliss, H. Cegla, B. Lavie, M. Lendl, C. Melo, F. Murgas, V. Nascimbeni, F. Pepe, D. Ségransan, S. Udry, A. Wyttenbach, and Kevin Heng. Hot Exoplanet Atmospheres Resolved with Transit Spectroscopy (HEARTS) IV. A spectral inventory of atoms and molecules in the high-resolution transmission spectrum of WASP-121 b. *arXiv e-prints*, art. arXiv:2006.11308, June 2020.
- V. Bourrier, D. Kitzmann, T. Kuntzer, V. Nascimbeni, M. Lendl, B. Lavie, H. J. Hoeijmakers, L. Pino, D. Ehrenreich, K. Heng, R. Allart, H. M. Cegla, X. Dumusque, C. Melo, **Astudillo-Defru, N.**, D. A. Caldwell, M. Cretignier, H. Giles, C. E. Henze, J. Jenkins, C. Lovis, F. Murgas, F. Pepe, G. R. Ricker, M. E. Rose, S. Seager, D. Ségransan, A. Suárez-Masareño, S. Udry, R. Vanderspek, and A. Wyttenbach. Optical phase curve of the ultra-hot Jupiter WASP-121b. *A&A*, 637:A36, May 2020a. doi: 10.1051/0004-6361/201936647.
- Tianjun Gan, Avi Shporer, John H. Livingston, Karen A. Collins, Shude Mao, Alessandro A. Trani, Davide Gandolfi, Teruyuki Hirano, Rafael Luque, Keivan G. Stassun, Carl Ziegler, Steve B. Howell, Coel Hellier, Jonathan M. Irwin, Jennifer G. Winters, David R. Anderson, César Briceño, Nicholas Law, Andrew W. Mann, Xavier Bonfils, **Astudillo-Defru, Nicola**, Eric L. N. Jensen, Guillem Anglada-Escudé, George R. Ricker, Roland Vanderspek, David W. Latham, Sara Seager, Joshua N. Winn, Jon M. Jenkins, Gabor Furesz, Natalia M. Guerrero, Elisa Quintana, Joseph D. Twicken, Douglas A. Caldwell, Peter Tenenbaum, Chelsea X. Huang, Pamela Rowden, and Bárbara Rojas-Ayala. LHS 1815b: The First Thick-disk Planet Detected by TESS. *AJ*, 159(4):160, April 2020. doi: 10.3847/1538-3881/ab775a.
- N. C. Hara, F. Bouchy, M. Stalport, I. Boisse, J. Rodrigues, J. B. Delisle, A. Santerne, G. W. Henry, L. Arnold, **Astudillo-Defru, N.**, S. Borgniet, X. Bonfils, V. Bourrier, B. Brugger, B. Courcol, S. Dalal, M. Deleuil, X. Delfosse, O. Demangeon, R. F. Díaz, X. Dumusque, T. Forveille, G. Hébrard, M. J. Hobson, F. Kiefer, T. Lopez, L. Mignon, O. Mousis, C. Moutou, F. Pepe, J. Rey, N. C. Santos, D. Ségransan, S. Udry, and P. A. Wilson. The SOPHIE search for northern extrasolar planets. XVI. HD 158259: A compact planetary system in a near-3:2 mean motion resonance chain. *A&A*, 636:L6, April 2020. doi: 10.1051/0004-6361/201937254.

- Astudillo-Defru, N.**, R. Cloutier, S. X. Wang, J. Teske, R. Brahm, C. Hellier, G. Ricker, R. Vander Spek, D. Latham, S. Seager, J. N. Winn, J. M. Jenkins, K. A. Collins, K. G. Stassun, C. Ziegler, J. M. Almenara, D. R. Anderson, E. Artigau, X. Bonfils, F. Bouchy, C. Briceño, R. P. Butler, D. Charbonneau, D. M. Conti, J. Crane, I. J. M. Crossfield, M. Davies, X. Delfosse, R. F. Díaz, R. Doyon, D. Dragomir, J. D. Eastman, N. Espinoza, Z. Essack, F. Feng, P. Figueira, T. Forveille, T. Gan, A. Glidden, N. Guerrero, R. Hart, Th. Henning, E. P. Horch, G. Isopi, J. S. Jenkins, A. Jordán, J. F. Kielkopf, N. Law, C. Lovis, F. Mallia, A. W. Mann, J. R. de Medeiros, C. Melo, R. E. Mennickent, L. Mignon, F. Murgas, D. A. Nusdeo, F. Pepe, H. M. Relles, M. Rose, N. C. Santos, D. Ségransan, S. Shetman, A. Shporer, J. C. Smith, P. Torres, S. Udry, J. Villaseñor, J. G. Winters, and G. Zhou. A hot terrestrial planet orbiting the bright M dwarf L 168-9 unveiled by TESS. *A&A* , 636:A58, April 2020. doi: 10.1051/0004-6361/201937179.
- V. Bourrier, D. Ehrenreich, M. Lendl, M. Cretignier, R. Allart, X. Dumusque, H. M. Cegla, A. Suárez-Mascares, A. Wyttenbach, H. J. Hoeijmakers, C. Melo, T. Kuntzer, **Astudillo-Defru, N.**, H. Giles, K. Heng, D. Kitzmann, B. Lavie, C. Lovis, F. Murgas, V. Nascimbeni, F. Pepe, L. Pino, D. Segransan, and S. Udry. Hot Exoplanet Atmospheres Resolved with Transit Spectroscopy (HEARTS). III. Atmospheric structure of the misaligned ultra-hot Jupiter WASP-121b. *A&A* , 635:A205, March 2020b. doi: 10.1051/0004-6361/201936640.
- Avi Shporer, Karen A. Collins, **Astudillo-Defru, Nicola**, Jonathan Irwin, Xavier Bonfils, Kevin I. Collins, Elisabeth Matthews, Jennifer G. Winters, David R. Anderson, James D. Armstrong, David Charbonneau, Ryan Cloutier, Tansu Daylan, Tianjun Gan, Maximilian N. Günther, Coel Hellier, Keith Horne, Chelsea X. Huang, Eric L. N. Jensen, John Kielkopf, Enric Palle, Ramotholo Sefako, Keivan G. Stassun, Thiam-Guan Tan, Andrew Vanderburg, George R. Ricker, David W. Latham, Roland Vanderspek, Sara Seager, Joshua N. Winn, Jon M. Jenkins, Knicole Colon, Courtney D. Dressing, Sébastien Lépine, Philip S. Muirhead, Mark E. Rose, Joseph D. Twicken, and Jesus Noel Villaseñor. GJ 1252 b: A 1.2 R_{\oplus} Planet Transiting an M3 Dwarf at 20.4 pc. *ApJ* , 890(1):L7, February 2020. doi: 10.3847/2041-8213/ab7020.
- Leonardo A. dos Santos, David Ehrenreich, Vincent Bourrier, **Astudillo-Defru, Nicola**, Xavier Bonfils, François Forget, Christophe Lovis, Francesco Pepe, and Stéphane Udry. The high-energy environment and atmospheric escape of the mini-Neptune K2-18 b. *A&A* , 634:L4, February 2020. doi: 10.1051/0004-6361/201937327.
- F. Kiefer, G. Hébrard, J. Sahlmann, S. G. Sousa, T. Forveille, N. Santos, M. Mayor, M. Deleuil, P. A. Wilson, S. Dalal, R. F. Díaz, G. W. Henry, J. Hagelberg, M. J. Hobson, O. Demangeon, V. Bourrier, X. Delfosse, L. Arnold, **Astudillo-Defru, N.**, J. L. Beuzit, I. Boisse, X. Bonfils, S. Borgniet, F. Bouchy, B. Courcol, D. Ehrenreich, N. Hara, A. M. Lagrange, C. Lovis, G. Montagnier, C. Moutou, F. Pepe, C. Perrier, J. Rey, A. Santerne, D. Ségransan, S. Udry, and A. Vidal-Madjar. Detection and characterisation of 54 massive companions with the SOPHIE spectrograph. Seven new brown dwarfs and constraints on the brown dwarf desert. *A&A* , 631:A125, November 2019. doi: 10.1051/0004-6361/201935113.
- Jennifer G. Winters, Amber A. Medina, Jonathan M. Irwin, David Charbonneau, **Astudillo-Defru, Nicola**, Elliott P. Horch, Jason D. Eastman, Eliot Halley Vrijmoet, Todd J. Henry, Hannah Diamond-Lowe, Elaine Winston, Thomas Barclay, Xavier Bonfils, George R. Ricker, Roland Vanderspek, David W. Latham, Sara Seager, Joshua N. Winn, Jon M. Jenkins, Stéphane Udry, Joseph D. Twicken, Johanna K. Teske, Peter Tenenbaum, Francesco Pepe, Felipe Murgas, Philip S. Muirhead, Jessica Mink, Christophe Lovis, Alan M. Levine, Sébastien Lépine, Wei-Chun Jao, Christopher E. Henze, Gábor Furész, Thierry Forveille, Pedro Figueira, Gilbert A. Esquerdo, Courtney D. Dressing, Rodrigo F. Díaz, Xavier Delfosse, Christopher J. Burke, François Bouchy, Perry Berlind, and Jose-Manuel Almenara. Three Red Suns in the Sky: A Transiting, Terrestrial Planet in a Triple M-dwarf System at 6.9 pc. *AJ* , 158(4):152, Oct 2019. doi: 10.3847/1538-3881/ab364d.
- R. Cloutier, **Astudillo-Defru, N.**, X. Bonfils, J. S. Jenkins, Z. Berdiñas, G. Ricker, R. Vander Spek, D. W. Latham, S. Seager, J. Winn, J. M. Jenkins, J. M. Almenara, F. Bouchy, X. Delfosse, M. R. Díaz, R. F. Díaz, R. Doyon, P. Figueira, T. Forveille, N. T. Kurtovic, C. Lovis, M. Mayor, K. Menou, E. Morgan, R. Morris, P. Muirhead, F. Murgas, F. Pepe, N. C. Santos, D. Ségransan, J. C. Smith, P. Tenenbaum, G. Torres, S. Udry, M. Vezie, and J. Villaseñor. Characterization of the L 98-59 multi-planetary system with HARPS. Mass characterization of a hot super-Earth, a sub-Neptune, and a mass upper limit on the third planet. *A&A* , 629:A111, Sep 2019a. doi: 10.1051/0004-6361/201935957.
- R. E. Mennickent, M. Cabezas, Djurašević, G. , T. Rivinius, P. Hadrava, R. Poleski, I. Soszyński, L. Celedón, **Astudillo-Defru, N.**, A. Raj, J. G. Fernández-Trincado, L. Schmidtbreick, C. Tappert, V. Neustroev, and I. Porritt. On the long cycle variability of the Algol OGLE-LMC-DPV-065 and its stellar, orbital and disk parameters. *MNRAS* , page 1290, May 2019. doi: 10.1093/mnras/stz1355.
- M. J. Hobson, X. Delfosse, **Astudillo-Defru, N.**, I. Boisse, R. F. Díaz, F. Bouchy, X. Bonfils, T. Forveille, L. Arnold, S. Borgniet, V. Bourrier, B. Brugger, N. Cabrera Salazar, B. Courcol, S. Dalal, M. Deleuil, O. Demangeon, X. Dumusque, N. Hara, G. Hébrard, F. Kiefer, T. Lopez, L. Mignon, G. Montagnier, O. Mousis, C. Moutou,

- F. Pepe, J. Rey, A. Santerne, N. C. Santos, M. Stalport, D. Ségransan, S. Udry, and P. A. Wilson. The SOPHIE search for northern extrasolar planets. XV. A warm Neptune around the M dwarf Gl 378. *A&A* , 625:A18, May 2019. doi: 10.1051/0004-6361/201834890.
- R. F. Díaz, X. Delfosse, M. J. Hobson, I. Boisse, **Astudillo-Defru, N.**, X. Bonfils, G. W. Henry, L. Arnold, F. Bouchy, V. Bourrier, B. Brugger, S. Dalal, M. Deleuil, O. Demangeon, F. Dolon, X. Dumusque, T. Forveille, N. Hara, G. Hébrard, F. Kiefer, T. Lopez, L. Mignon, F. Moreau, O. Mousis, C. Moutou, F. Pepe, S. Perruchot, Y. Richaud, A. Santerne, N. C. Santos, R. Sottile, M. Stalport, D. Ségransan, S. Udry, N. Unger, and P. A. Wilson. The SOPHIE search for northern extrasolar planets. XIV. A temperate (T_{eq} 300 K) super-earth around the nearby star Gliese 411. *A&A* , 625:A17, May 2019. doi: 10.1051/0004-6361/201935019.
- Molly R. Kosiarek, Ian J. M. Crossfield, Kevin K. Hardegree-Ullman, John H. Livingston, Björn Benneke, Gregory W. Henry, Ward S. Howard, David Berardo, Sarah Blunt, Benjamin J. Fulton, Lea A. Hirsch, Andrew W. Howard, Howard Isaacson, Erik A. Petigura, Evan Sinukoff, Lauren Weiss, X. Bonfils, Courtney D. Dressing, Heather A. Knutson, Joshua E. Schlieder, Michael Werner, Varoujan Gorjian, Jessica Krick, Farisa Y. Morales, **Astudillo-Defru, Nicola**, J. M. Almenara, X. Delfosse, T. Forveille, C. Lovis, M. Mayor, F. Murgas, F. Pepe, N. C. Santos, S. Udry, H. T. Corbett, Octavi Fors, Nicholas M. Law, Jeffrey K. Ratzloff, and Daniel del Ser. Bright Opportunities for Atmospheric Characterization of Small Planets: Masses and Radii of K2-3 b, c, and d and GJ3470 b from Radial Velocity Measurements and Spitzer Transits. *AJ* , 157:97, Mar 2019. doi: 10.3847/1538-3881/aaf79c.
- J. V. Seidel, D. Ehrenreich, A. Wyttenbach, R. Allart, M. Lendl, L. Pino, V. Bourrier, H. M. Cegla, C. Lovis, D. Barrado, D. Bayliss, **Astudillo-Defru, N.**, A. Deline, C. Fisher, K. Heng, R. Joseph, B. Lavie, C. Melo, F. Pepe, D. Ségransan, and S. Udry. Hot Exoplanet Atmospheres Resolved with Transit Spectroscopy (HEARTS). II. A broadened sodium feature on the ultra-hot giant WASP-76b. *A&A* , 623:A166, Mar 2019. doi: 10.1051/0004-6361/201834776.
- Kristo Ment, Jason A. Dittmann, **Astudillo-Defru, Nicola**, David Charbonneau, Jonathan Irwin, Xavier Bonfils, Felipe Murgas, Jose-Manuel Almenara, Thierry Forveille, Eric Agol, Sarah Ballard, Zachory K. Berta-Thompson, François Bouchy, Ryan Cloutier, Xavier Delfosse, René Doyon, Courtney D. Dressing, Gilbert A. Esquerdo, Raphaëlle D. Haywood, David M. Kipping, David W. Latham, Christophe Lovis, Elisabeth R. Newton, Francesco Pepe, Joseph E. Rodriguez, Nuno C. Santos, Thiam-Guan Tan, Stephane Udry, Jennifer G. Winters, and Anaël Wünsche. A Second Terrestrial Planet Orbiting the Nearby M Dwarf LHS 1140. *AJ* , 157:32, Jan 2019. doi: 10.3847/1538-3881/aaf1b1.
- S. Borgniet, A. M. Lagrange, N. Meunier, F. Galland , L. Arnold, **Astudillo-Defru, N.**, J. L. Beuzit, I. Boisse, X. Bonfils, F. Bouchy, K. Debondt, M. Deleuil, X. Delfosse, M. Desort, R. F. Díaz, A. Eggenberger, D. Ehrenreich, T. Forveille, G. Hébrard, B. Loeillet, C. Lovis, G. Montagnier, C. Moutou, F. Pepe, C. Perrier, F. Pont, D. Queloz, A. Santerne, N. C. Santos, D. Ségransan, R. da Silva, J. P. Sivan, S. Udry, and A. Vidal-Madjar. Extrasolar planets and brown dwarfs around AF-type stars. X. The SOPHIE sample: combining the SOPHIE and HARPS surveys to compute the close giant planet mass-period distribution around AF-type stars. *A&A* , 621:A87, Jan 2019. doi: 10.1051/0004-6361/201833431.
- R. Cloutier, **Astudillo-Defru, N.**, R. Doyon, X. Bonfils, J. M. Almenara, F. Bouchy, X. Delfosse, T. Forveille, C. Lovis, M. Mayor, K. Menou, F. Murgas, F. Pepe, N. C. Santos, S. Udry, and A. Wünsche. Confirmation of the radial velocity super-Earth K2-18c with HARPS and CARMENES. *A&A* , 621:A49, Jan 2019b. doi: 10.1051/0004-6361/201833995.
- V. Bourrier, X. Dumusque, C. Dorn, G. W. Henry, **Astudillo-Defru, N.**, J. Rey, B. Benneke, G. Hébrard, C. Lovis, B. O. Demory, C. Moutou, and D. Ehrenreich. The 55 Cancri system reassessed. *A&A* , 619:A1, October 2018a. doi: 10.1051/0004-6361/201833154.
- X. Bonfils, J. M. Almenara, R. Cloutier, A. Wünsche, **Astudillo-Defru, N.**, Z. Berta-Thompson, F. Bouchy, D. Charbonneau, X. Delfosse, R. F. Díaz, J. Dittmann, R. Doyon, T. Forveille, J. Irwin, C. Lovis, M. Mayor, K. Menou, F. Murgas, E. Newton, F. Pepe, N. C. Santos, and S. Udry. Radial velocity follow-up of GJ1132 with HARPS. A precise mass for planet b and the discovery of a second planet. *A&A* , 618:A142, October 2018a. doi: 10.1051/0004-6361/201731884.
- A. Kaminski, T. Trifonov, J. A. Caballero, A. Quirrenbach, I. Ribas, A. Reiners, P. J. Amado, M. Zechmeister, S. Dreizler, M. Perger, L. Tal-Or, X. Bonfils, M. Mayor, **Astudillo-Defru, N.**, F. F. Bauer, V. J. S. Béjar, C. Cifuentes, J. Colomé, M. Cortés-Contreras, X. Delfosse, E. Díez-Alonso, T. Forveille, E. W. Guenther, A. P. Hatzes, Th. Henning, S. V. Jeffers, M. Kürster, M. Lafarga, R. Luque, H. Mandel, D. Montes, J. C. Morales, V. M. Passegger, S. Pedraz, S. Reffert, S. Sadegi, A. Schweitzer, W. Seifert, O. Stahl, and S. Udry. The CARMENES search for exoplanets around M dwarfs. A Neptune-mass planet traversing the habitable zone around HD 180617. *A&A* , 618:A115, October 2018. doi: 10.1051/0004-6361/201833354.

- M. J. Hobson, R. F. Díaz, X. Delfosse, **Astudillo-Defru, N.**, I. Boisse, F. Bouchy, X. Bonfils, T. Forveille, N. Hara, L. Arnold, S. Borgniet, V. Bourrier, B. Brugger, N. Cabrera, B. Courcol, S. Dalal, M. Deleuil, O. Demangeon, X. Dumusque, D. Ehrenreich, G. Hébrard, F. Kiefer, T. Lopez, L. Mignon, G. Montagnier, O. Mousis, C. Moutou, F. Pepe, J. Rey, A. Santerne, N. Santos, M. Stalport, D. Ségransan, S. Udry, and P. A. Wilson. The SOPHIE search for northern extrasolar planets. XIII. Two planets around M-dwarfs Gl617A and Gl96. *A&A* , 618:A103, October 2018. doi: 10.1051/0004-6361/201832732.
- M. Damasso, A. S. Bonomo, **Astudillo-Defru, N.**, X. Bonfils, L. Malavolta, A. Sozzetti, E. Lopez, L. Zeng, R. D. Haywood, J. M. Irwin, A. Mortier, A. Vanderburg, J. Maldonado, A. F. Lanza, L. Affer, J. M. Almenara, S. Benatti, K. Biazzo, A. Bignamini, F. Borsa, F. Bouchy, L. A. Buchhave, A. C. Cameron, I. Carleo, D. Charbonneau, R. Claudi, R. Cosentino, E. Covino, X. Delfosse, S. Desidera, L. Di Fabrizio, C. Dressing, M. Esposito, R. Fares, P. Figueira, A. F. M. Fiorenzano, T. Forveille, P. Giacobbe, E. González-Álvarez, R. Gratton, A. Harutyunyan, J. Asher Johnson, D. W. Latham, G. Leto, M. Lopez-Morales, C. Lovis, A. Maggio, L. Mancini, S. Masiero, M. Mayor, G. Micela, E. Molinari, F. Motalebi, F. Murgas, V. Nascimbeni, I. Pagano, F. Pepe, D. F. Phillips, G. Piotto, E. Poretti, M. Rainer, K. Rice, N. C. Santos, D. Sasselov, G. Scandariato, D. Ségransan, R. Smareglia, S. Udry, C. Watson, and A. Wünsche. Eyes on K2-3: A system of three likely sub-Neptunes characterized with HARPS-N and HARPS. *A&A* , 615:A69, July 2018. doi: 10.1051/0004-6361/201732459.
- Étienne Artigau, Lison Malo, René Doyon, Pedro Figueira, Xavier Delfosse, and **Astudillo-Defru, Nicola**. Optical and Near-infrared Radial Velocity Content of M Dwarfs: Testing Models with Barnard’s Star. *AJ* , 155:198, May 2018. doi: 10.3847/1538-3881/aab77d.
- X. Bonfils, **Astudillo-Defru, N.**, R. Díaz, J. M. Almenara, T. Forveille, F. Bouchy, X. Delfosse, C. Lovis, M. Mayor, F. Murgas, F. Pepe, N. C. Santos, D. Ségransan, S. Udry, and A. Wünsche. A temperate exo-Earth around a quiet M dwarf at 3.4 parsec. *A&A* , 613:A25, May 2018b. doi: 10.1051/0004-6361/201731973.
- Vincent Bourrier, Christophe Lovis, Hervé Beust, David Ehrenreich, Gregory W. Henry, **Astudillo-Defru, Nicola**, Romain Allart, Xavier Bonfils, Damien Ségransan, Xavier Delfosse, Heather M. Cegla, Aurélien Wyttenbach, Kevin Heng, Baptiste Lavie, and Francesco Pepe. Orbital misalignment of the Neptune-mass exoplanet GJ 436b with the spin of its cool star. *Nature* , 553:477–480, January 2018b. doi: 10.1038/nature24677.
- R. Cloutier, **Astudillo-Defru, N.**, R. Doyon, X. Bonfils, J. M. Almenara, B. Benneke, F. Bouchy, X. Delfosse, D. Ehrenreich, T. Forveille, C. Lovis, M. Mayor, K. Menou, F. Murgas, F. Pepe, J. Rowe, N. C. Santos, S. Udry, and A. Wünsche. Characterization of the K2-18 multi-planetary system with HARPS. A habitable zone super-Earth and discovery of a second, warm super-Earth on a non-coplanar orbit. *A&A* , 608:A35, December 2017. doi: 10.1051/0004-6361/201731558.
- Astudillo-Defru, N.**, R. F. Díaz, X. Bonfils, J. M. Almenara, J.-B. Delisle, F. Bouchy, X. Delfosse, T. Forveille, C. Lovis, M. Mayor, F. Murgas, F. Pepe, N. C. Santos, D. Ségransan, S. Udry, and A. Wünsche. The HARPS search for southern extra-solar planets. XLII. A system of Earth-mass planets around the nearby M dwarf YZ Ceti. *A&A* , 605:L11, September 2017a. doi: 10.1051/0004-6361/201731581.
- V. Bourrier, D. Ehrenreich, R. Allart, A. Wyttenbach, T. Semaan, **Astudillo-Defru, N.**, A. Gracia-Berná, C. Lovis, F. Pepe, N. Thomas, and S. Udry. Strong H I Lyman- α variations from an 11 Gyr-old host star: a planetary origin? *A&A* , 602:A106, June 2017. doi: 10.1051/0004-6361/201730542.
- Astudillo-Defru, N.**, T. Forveille, X. Bonfils, D. Ségransan, F. Bouchy, X. Delfosse, C. Lovis, M. Mayor, F. Murgas, F. Pepe, N. C. Santos, S. Udry, and A. Wünsche. The HARPS search for southern extra-solar planets. XLI. A dozen planets around the M dwarfs GJ 3138, GJ 3323, GJ 273, GJ 628, and GJ 3293. *A&A* , 602:A88, June 2017b. doi: 10.1051/0004-6361/201630153.
- A. Wyttenbach, C. Lovis, D. Ehrenreich, V. Bourrier, L. Pino, R. Allart, **Astudillo-Defru, N.**, H. M. Cegla, K. Heng, B. Lavie, C. Melo, F. Murgas, A. Santerne, D. Ségransan, S. Udry, and F. Pepe. Hot Exoplanet Atmospheres Resolved with Transit Spectroscopy (HEARTS). I. Detection of hot neutral sodium at high altitudes on WASP-49b. *A&A* , 602:A36, June 2017. doi: 10.1051/0004-6361/201630063.
- J. Rey, G. Hébrard, F. Bouchy, V. Bourrier, I. Boisse, N. C. Santos, L. Arnold, **Astudillo-Defru, N.**, X. Bonfils, S. Borgniet, B. Courcol, M. Deleuil, X. Delfosse, O. Demangeon, R. F. Díaz, D. Ehrenreich, T. Forveille, M. Marmier, C. Moutou, F. Pepe, A. Santerne, J. Sahlmann, D. Ségransan, S. Udry, and P. A. Wilson. The SOPHIE search for northern extrasolar planets. XII. Three giant planets suitable for astrometric mass determination with Gaia. *A&A* , 601:A9, May 2017. doi: 10.1051/0004-6361/201630089.
- J. A. Dittmann, J. M. Irwin, D. Charbonneau, X. Bonfils, **Astudillo-Defru, N.**, R. D. Haywood, Z. K. Berta-Thompson, E. R. Newton, J. E. Rodriguez, J. G. Winters, T.-G. Tan, J.-M. Almenara, F. Bouchy, X. Delfosse, T. Forveille, C. Lovis, F. Murgas, F. Pepe, N. C. Santos, S. Udry, A. Wünsche, G. A. Esquerdo, D. W. Latham,

and C. D. Dressing. A temperate rocky super-Earth transiting a nearby cool star. *Nature* , 544:333–336, April 2017. doi: 10.1038/nature22055.

- Astudillo-Defru, N.**, X. Delfosse, X. Bonfils, T. Forveille, C. Lovis, and J. Rameau. Magnetic activity in the HARPS M dwarf sample. The rotation-activity relationship for very low-mass stars through R' (HK). *A&A* , 600:A13, April 2017c. doi: 10.1051/0004-6361/201527078.
- C. Lovis, I. Snellen, D. Mouillet, F. Pepe, F. Wildi, **Astudillo-Defru, N.**, J.-L. Beuzit, X. Bonfils, A. Cheetham, U. Conod, X. Delfosse, D. Ehrenreich, P. Figueira, T. Forveille, J. H. C. Martins, S. P. Quanz, N. C. Santos, H.-M. Schmid, D. Ségransan, and S. Udry. Atmospheric characterization of Proxima b by coupling the SPHERE high-contrast imager to the ESPRESSO spectrograph. *A&A* , 599:A16, March 2017. doi: 10.1051/0004-6361/201629682.
- A. Suárez Mascareño, J. I. González Hernández, R. Rebolo, **Astudillo-Defru, N.**, X. Bonfils, F. Bouchy, X. Delfosse, T. Forveille, C. Lovis, M. Mayor, F. Murgas, F. Pepe, N. C. Santos, S. Udry, A. Wünsche, and S. Velasco. A super-Earth orbiting the nearby M dwarf GJ 536. *A&A* , 597:A108, January 2017. doi: 10.1051/0004-6361/201629291.
- J. Sahlmann, P. F. Lazorenko, D. Ségransan, **Astudillo-Defru, N.**, X. Bonfils, X. Delfosse, T. Forveille, J. Hagelberg, G. Lo Curto, F. Pepe, D. Queloz, S. Udry, and N. T. Zimmerman. The mass of planet GJ 676A b from ground-based astrometry. A planetary system with two mature gas giants suitable for direct imaging. *A&A* , 595:A77, November 2016. doi: 10.1051/0004-6361/201628854.
- R. F. Díaz, J. Rey, O. Demangeon, G. Hébrard, I. Boisse, L. Arnold, **Astudillo-Defru, N.**, J.-L. Beuzit, X. Bonfils, S. Borgniet, F. Bouchy, V. Bourrier, B. Courcol, M. Deleuil, X. Delfosse, D. Ehrenreich, T. Forveille, A.-M. Lagrange, M. Mayor, C. Moutou, F. Pepe, D. Queloz, A. Santerne, N. C. Santos, J. Sahlmann, D. Ségransan, S. Udry, and P. A. Wilson. The SOPHIE search for northern extrasolar planets. XI. Three new companions and an orbit update: Giant planets in the habitable zone. *A&A* , 591:A146, July 2016. doi: 10.1051/0004-6361/201628331.
- G. Hébrard, L. Arnold, T. Forveille, A. C. M. Correia, J. Laskar, X. Bonfils, I. Boisse, R. F. Díaz, J. Hagelberg, J. Sahlmann, N. C. Santos, **Astudillo-Defru, N.**, S. Borgniet, F. Bouchy, V. Bourrier, B. Courcol, X. Delfosse, M. Deleuil, O. Demangeon, D. Ehrenreich, J. Gregorio, N. Jovanovic, O. Labrevoir, A.-M. Lagrange, C. Lovis, J. Lozi, C. Moutou, G. Montagnier, F. Pepe, J. Rey, A. Santerne, D. Ségransan, S. Udry, M. Vanhuyse, A. Vigan, and P. A. Wilson. The SOPHIE search for northern extrasolar planets. X. Detection and characterization of giant planets by the dozen. *A&A* , 588:A145, April 2016. doi: 10.1051/0004-6361/201527585.
- P. A. Wilson, G. Hébrard, N. C. Santos, J. Sahlmann, G. Montagnier, **Astudillo-Defru, N.**, I. Boisse, F. Bouchy, J. Rey, L. Arnold, X. Bonfils, V. Bourrier, B. Courcol, M. Deleuil, X. Delfosse, R. F. Díaz, D. Ehrenreich, T. Forveille, C. Moutou, F. Pepe, A. Santerne, D. Ségransan, and S. Udry. The SOPHIE search for northern extrasolar planets. IX. Populating the brown dwarf desert. *A&A* , 588:A144, April 2016. doi: 10.1051/0004-6361/201527581.
- F. Bouchy, D. Ségransan, R. F. Díaz, T. Forveille, I. Boisse, L. Arnold, **Astudillo-Defru, N.**, J.-L. Beuzit, X. Bonfils, S. Borgniet, V. Bourrier, B. Courcol, X. Delfosse, O. Demangeon, P. Delorme, D. Ehrenreich, G. Hébrard, A.-M. Lagrange, M. Mayor, G. Montagnier, C. Moutou, D. Naef, F. Pepe, C. Perrier, D. Queloz, J. Rey, J. Sahlmann, A. Santerne, N. C. Santos, J.-P. Sivan, S. Udry, and P. A. Wilson. The SOPHIE search for northern extrasolar planets. VIII. Follow-up of ELODIE candidates: long-period brown-dwarf companions. *A&A* , 585:A46, January 2016. doi: 10.1051/0004-6361/201526347.
- Z. K. Berta-Thompson, J. Irwin, D. Charbonneau, E. R. Newton, J. A. Dittmann, **Astudillo-Defru, N.**, X. Bonfils, M. Gillon, E. Jehin, A. A. Stark, B. Stalder, F. Bouchy, X. Delfosse, T. Forveille, C. Lovis, M. Mayor, V. Neves, F. Pepe, N. C. Santos, S. Udry, and A. Wünsche. A rocky planet transiting a nearby low-mass star. *Nature* , 527: 204–207, November 2015. doi: 10.1038/nature15762.
- J. M. Almenara, **Astudillo-Defru, N.**, X. Bonfils, T. Forveille, A. Santerne, S. Albrecht, S. C. C. Barros, F. Bouchy, X. Delfosse, O. Demangeon, R. F. Diaz, G. Hébrard, M. Mayor, V. Neves, P. Rojo, N. C. Santos, and A. Wünsche. A HARPS view on K2-3. *A&A* , 581:L7, September 2015. doi: 10.1051/0004-6361/201525918.
- B. Courcol, F. Bouchy, F. Pepe, A. Santerne, X. Delfosse, L. Arnold, **Astudillo-Defru, N.**, I. Boisse, X. Bonfils, S. Borgniet, V. Bourrier, N. Cabrera, M. Deleuil, O. Demangeon, R. F. Díaz, D. Ehrenreich, T. Forveille, G. Hébrard, A. M. Lagrange, G. Montagnier, C. Moutou, J. Rey, N. C. Santos, D. Ségransan, S. Udry, and P. A. Wilson. The SOPHIE search for northern extrasolar planets. VII. A warm Neptune orbiting HD 164595. *A&A* , 581:A38, September 2015. doi: 10.1051/0004-6361/201526329.
- Astudillo-Defru, N.**, X. Bonfils, X. Delfosse, D. Ségransan, T. Forveille, F. Bouchy, M. Gillon, C. Lovis, M. Mayor, V. Neves, F. Pepe, C. Perrier, D. Queloz, P. Rojo, N. C. Santos, and S. Udry. The HARPS search for southern extra-solar planets. XXXVI. Planetary systems and stellar activity of the M dwarfs GJ 3293, GJ 3341, and GJ 3543. *A&A* , 575:A119, March 2015. doi: 10.1051/0004-6361/201424253.

- A. A. Lanotte, M. Gillon, B.-O. Demory, J. J. Fortney, **Astudillo, N.**, X. Bonfils, P. Magain, X. Delfosse, T. Forveille, C. Lovis, M. Mayor, V. Neves, F. Pepe, D. Queloz, N. Santos, and S. Udry. A global analysis of Spitzer and new HARPS data confirms the loneliness and metal-richness of GJ 436 b. *A&A* , 572:A73, December 2014. doi: 10.1051/0004-6361/201424373.
- É. Artigau, **Astudillo-Defru, N.**, X. Delfosse, F. Bouchy, X. Bonfils, C. Lovis, F. Pepe, C. Moutou, J.-F. Donati, R. Doyon, and L. Malo. Telluric-line subtraction in high-accuracy velocimetry: a PCA-based approach. In *Observatory Operations: Strategies, Processes, and Systems V*, volume 9149 of *Proc. SPIE* , page 914905, July 2014. doi: 10.1117/12.2056385.
- C. Moutou, G. Hébrard, F. Bouchy, L. Arnold, N. C. Santos, **Astudillo-Defru, N.**, I. Boisse, X. Bonfils, S. Borgniet, X. Delfosse, R. F. Díaz, D. Ehrenreich, T. Forveille, J. Gregorio, O. Labrevoir, A.-M. Lagrange, G. Montagnier, M. Montalto, F. Pepe, J. Sahlmann, A. Santerne, D. Ségransan, S. Udry, and M. Vanhuyse. The SOPHIE search for northern extrasolar planets. VI. Three new hot Jupiters in multi-planet extrasolar systems. *A&A* , 563:A22, March 2014. doi: 10.1051/0004-6361/201322067.
- S. Borgniet, I. Boisse, A.-M. Lagrange, F. Bouchy, L. Arnold, R. F. Díaz, F. Galland, P. Delorme, G. Hébrard, A. Santerne, D. Ehrenreich, D. Ségransan, X. Bonfils, X. Delfosse, N. C. Santos, T. Forveille, C. Moutou, S. Udry, A. Eggenberger, F. Pepe, **Astudillo, N.**, and G. Montagnier. Extrasolar planets and brown dwarfs around A-F type stars. VIII. A giant planet orbiting the young star HD 113337. *A&A* , 561:A65, January 2014. doi: 10.1051/0004-6361/201321783.
- S. Hoyer, M. López-Morales, P. Rojo, V. Nascimbeni, S. Hidalgo, **Astudillo-Defru, N.**, F. Concha, Y. Contreras, E. Servajean, and T. C. Hinse. TraMoS project - III. Improved physical parameters, timing analysis and starspot modelling of the WASP-4b exoplanet system from 38 transit observations. *MNRAS* , 434:46–58, September 2013. doi: 10.1093/mnras/stt962.
- Astudillo-Defru, N.** and P. Rojo. Ground-based detection of calcium and possibly scandium and hydrogen in the atmosphere of HD 209458b. *A&A* , 557:A56, September 2013. doi: 10.1051/0004-6361/201219018.
- X. Bonfils, G. Lo Curto, A. C. M. Correia, J. Laskar, S. Udry, X. Delfosse, T. Forveille, **Astudillo-Defru, N.**, W. Benz, F. Bouchy, M. Gillon, G. Hébrard, C. Lovis, M. Mayor, C. Moutou, D. Naef, V. Neves, F. Pepe, C. Perrier, D. Queloz, N. C. Santos, and D. Ségransan. The HARPS search for southern extra-solar planets. XXXIV. A planetary system around the nearby M dwarf GJ 163, with a super-Earth possibly in the habitable zone. *A&A* , 556:A110, August 2013. doi: 10.1051/0004-6361/201220237.