last update: September 11, 2022 (click here for the live version)

Contents

Personal information	2
Employment / Appointments	2
Education	2
Awards	2
Observatory Experience	3 3 4
Research Experience Funding Fellowships Visiting Faculty/Postdoc/Graduate Student	5 5 6
Academic Experience Student/Postdoc supervision Committee Service Thesis Defense Committee Teaching	7 7 7 8
Other relevant information Computing skills Online Resources Professional Affiliations/Service	9
Invited / Contributed talks	10
Quantitative Indicators	14
Publication list	14
Telescope time allocations Principal Investigator Co-Investigator	29
Press releases, articles, and media resources	34

Personal information

Full name Vinicius [vee-nee-cee-uh-s] Moris Placco Languages Portuguese (native), English (fluent),

Spanish (intermediate), Italian (basic)

Website http://vmplacco.github.io/ e-mail vmplacco@gmail.com

Employment / Appointments

2020- Associate Scientist

Community Science & Data Center – US National Gemini Office NSF's National Optical-Infrared Astronomy Research Laboratory

2015-2020 Research Assistant Professor

Department of Physics University of Notre Dame

2018–2020 Faculty Fellow

Liu Institute for Asia and Asian Studies

University of Notre Dame

2014-2015 Science Fellow

Gemini Observatory – Northern Operations Center Association of Universities for Research in Astronomy

2013-2014 Postdoctoral Fellow

National Optical Astronomy Observatory

Association of Universities for Research in Astronomy

2010-2013 Postdoctoral Fellow

Instituto de Astronomia, Geofísica e Ciências Atmosféricas

Universidade de São Paulo

Education

2007–2010 Doctorate degree in Astronomy

Search for very metal-poor stars based on carbon over-abundance

Instituto de Astronomia, Geofísica e Ciências Atmosféricas

Universidade de São Paulo

2005–2007 Master's degree in Astronomy

Abundance patterns among very metal-poor stars in the Galaxy: a statistical approach

Instituto de Astronomia, Geofísica e Ciências Atmosféricas

Universidade de São Paulo

2001–2005 Bachelor's degree in Physics (concentration: Astronomy)

Instituto de Física

Universidade de São Paulo

Awards

2011 Featured Astronomy thesis of the year 2010

Instituto de Astronomia, Geofísica e Ciências Atmosféricas

Universidade de São Paulo

2005 Best Astronomy undergraduate project

Instituto de Astronomia, Geofísica e Ciências Atmosféricas

Universidade de São Paulo

Observatory Experience

Leardership roles/Service

2020-present	Hubble Space Telescope External Proposal reviewer
2018-present	Member of the J-PAS Survey Science Committee (Javalambre Physics of the Accelerating Universe Survey)
2018-present	Co-coordinator of the Resolved Stellar Population Working Group of the J-PAS Survey
2018-present	Member of the Maunakea Spectroscopic Explorer (MSE) Science Team
2017-present	Co-coordinator of the Stellar Parameters Value-Added Catalog Group of the J-PLUS Survey
2017-present	Subaru Telescope Proposal reviewer – category group: Normal Stars, Metal-Poor Stars
2017-present	Member of the S-PLUS Advisory Committee (Southern Photometric Local Universe Survey)
2017-present	Principal Investigator of the S-PLUS Short Survey
2019-2020	Member of the NSF's NOIR Lab Time Allocation Committee - Galactic Panel 2
2017-2020	US representative for the Gemini Observatory Users Committee
2018-2019	Member of the NOAO Time Allocation Committee - Galactic Panel 2
2017-2018	Member of the Gemini OCS Upgrades Working Group
2018	US Extremely Large Telescope Program – First Stars Key Science Project

Operations and Instrument/User Support

2020-present NSF's NOIRLab: Community Science & Data Center - US National Gemini Office

Product development for the Gemini user community:

Twitter account bots – daily completion, weekly paper, monthly completion, other metrics GitHub repositories – DRAGONS Imaging tutorials, IRAF Spectroscopy tutorials, users dashboard

Co-organization of AAS Splinter Meetings

Migration and maintenance of the US NGO Portal Migration and maintenance of the GMOS Cookbook

Gemini HelpDesk - Responsible for selected Tiers 2 and 3 inquiries

2021-present NSF's NOIRLab: Gemini Observatory - Science User Support Department

Part of the Science Verification effort for the DRAGONS spectroscopic routines

Early testing of the quick-look and interactive tools for DRAGONS Performance comparison between Gemini/IRAF and DRAGONS packages

2021-present NSF's NOIRLab: Communications, Education & Engagement

Supported the migration of the NOAO Science website to the new NOIRLab Science website

Developed, revised, and curated content for the NOIRLab Science website

Serve as a liaison between RSS and CEE

Support science staff in adding/editing content on the science webpages

Responding/routing science inquiries from usercomms@noirlab.edu and info@noirlab.edu

Add/moderate content for scientific meetings in the Science Events database

2014–2015 **Gemini-North**: Operations

Support Scientist for Phase II programs Backup support for instrument teams

Interface between observatory and visitors (staff, scientists, and others) Interactions with astronomers, engineers, IT personnel, and facilities staff

Community support (help-desk and troubleshooting) Write/edit/update internal and external webpages

Weekly operations meetings

Queue observer Data reductions

2014–2015 Gemini-North: GMOS Instrument Team

Instrument performance monitoring pipeline

Throughput characterization

Commissioning of AO capabilities

Write/edit/update internal and external instrument webpages

Data quality assessment

Commissioning of Hamamatsu CCD at GMOS-S

2014–2015 **Gemini-North**: GRACES Instrument Team

Commissioning of the instrument

Developed early data-reduction pipeline

Write/edit/update internal and external instrument webpages Developed exposure time calculator (GRACES ITC v0.1 Beta)

2008–2012 **SOAR Telescope**: remote observing station – University of São Paulo

Responsible for operations and maintenance

Develop data reduction tools

Edit/write manuals and data analysis cookbooks

User support and troubleshooting

Configure, quote, and purchase new workstations and teleconference hardware

Work with university staff and IT personel to ensure physical access to buildings and computers

Support daytime calibrations / nighttime observations

Observing Experience

Period	Telescope	# of nights	instrument	mode
2019-present	CTIO/Blanco	16	COSMOS	remote
2011–present	ESO/NTT	12	EFOSC2	visitor
2008-present	SOAR	40+	Goodman OSIRIS	remote
2013–2018	KPNO/Mayall	20+	RCSPEC KOSMOS	visitor/remote
2014–2015	Gemini North	12	GMOS GRACES GNIRS NIRI NIFS	queue observer
2014–2015	Gemini South	2	GMOS	remote
2013	McDonald 2.1m	4	ES2 Spectrometer	visitor

Research Experience

Funding

Past (Total: USD 470,229)

2020–2022 Hubble Space Telescope (Co-I)

Testing r-process nucleosynthesis models with two r-process enhanced stars

Space Telescope Science Institute (USD 35,000)

2019–2021 Hubble Space Telescope (Co-PI)

HD 222925: A unique opportunity to study the full range of nuclei produced by a single r-process event

Space Telescope Science Institute (USD 60,732)

2018–2020 Hubble Space Telescope (Co-PI)

The Unexplored Domains of the s-Process

Space Telescope Science Institute (USD 119,104)

2018 Liu Institute for Asia & Asian Studies (PI)

Stellar Archaeology as a Time Machine to the First Stars

University of Notre Dame (USD 600 - Travel support for conference)

2018 Liu Institute for Asia & Asian Studies (PI)

TDLI Workshop on The Exploding Universe

University of Notre Dame (USD 2,600 - Travel support for conference)

2015–2017 Hubble Space Telescope (Co-I)

The First Detections of Phosphorus, Sulphur, and Zinc in a Bona-Fide Second-Generation Star

Space Telescope Science Institute (USD 85,293)

2016–2017 Faculty Research Support Program Initiation Grant (PI)

Identification of CEMP Stars from S-PLUS Photometry using Artificial Neural Networks

University of Notre Dame (USD 10,000)

2013–2014 FAPESP (State of São Paulo Research Foundation) – Postdoctorate

(re)discovery and analysis of metal-poor stars in the Milky Way

National Optical Astronomy Observatory (USD 71,400)

2010–2013 FAPESP (State of São Paulo Research Foundation) – Postdoctorate

The Milky Way Halo revisited

Universidade de São Paulo (USD 85,500)

Fellowships

2007-2010	Doctorate –	FAPESP ((07/04356-3)	Universic	lade de São Paulo
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Search for very metal-poor stars based on carbon over-abundance

2005–2007 Master's – FAPESP (05/01023-8) – Universidade de São Paulo

Abundance patterns among very metal-poor stars in the Galaxy: a statistical approach

2004–2005 Undergraduate research project – CNPq/PIBIC – Universidade de São Paulo

Descoberta e Análise de Objetos com Linhas em Emissão no Survey HK

2002–2004 Undergraduate research project – FAPESP (02/04704-8) – Universidade de São Paulo

Construção de câmara de alvo gasoso para produção de feixes radioativos

Visiting Faculty/Postdoc/Graduate Student

2018 Universidade de São Paulo

Instituto de Astronomia, Geofísica e Ciências Atmosféricas

Funding: USP/FAPESP/JINA-CEE

2018 Chungnam National University

Department of Astronomy & Space Science

Funding: CNU

2014 University of Notre Dame

Department of Physics

Funding: Gemini Observatory and JINA (Joint Institute for Nuclear Asthophysics)

2014/2012 Massachusetts Institute of Technology

Kavli Institute for Astrophysics and Space Research

Funding: Gemini Observatory, FAPESP (The State of São Paulo Research Foundation - Brazil)

2013/2012 National Optical Astronomy Observatory

Kitt Peak National Observatory Funding: FAPESP (Brazil)

2013 New Mexico State University

Department of Astronomy Funding: FAPESP (Brazil)

2010/2008 Universität Heidelberg

Zentrum für Astronomie

Funding: Universität Heidelberg (Germany), FAPESP, PROEX (Brazil)

2010/2009 Michigan State University

2007 Physics and Astronomy Department

Funding: JINA (USA), FAPESP, PROEX (Brazil)

Academic Experience

Student/Postdoc supervision

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Postdoctoral level
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2022–2023 Felipe de Almeida Fernandes (Universidade de São Paulo - Visiting Fellow at NSF's NOIRLab)

Graduate Level (co-advisor) - University of Notre Dame

- 2019-2022 Carlos Andrés Galarza Arevalo (Observatório Nacional - Brazil)
- 2019-2022 Joseph Zepeda
- 2019-2022 Derek Shank
- Sarah Dietz 2015-2020
- 2015-2020 Dmitrii Gudin
- Devin Whitten 2015-2020
- 2015-2020 Kaitlin Rasmussen
- 2015-2017 Geoffrey Lentner

Rafael Santucci (M.Sc. and Ph.D. - Universidade de São Paulo) 2010-2016 Undergraduate Level (advisor) - University of Notre Dame

- 2020 Dante Komater (Physics Major)
- 2019-2020 Lucas Pinheiro (Engineering Major)
 - 2019 Shenghua Liu (Physics Major)
 - 2019 Winter Allen (Arkansas Tech University - REU)
 - 2019 Yihao Zhou (Shanghai Jiao Tong University - REU)
- 2016-2018 Erik Peterson
- 2016-2018 David Kalamarides
- 2015-2018 Spencer Clark (Glynn Family Honors Program) - Senior Thesis
- 2016-2017 John Roach
- 2016-2017 Cristobal Gonzales
- 2016-2017 Michael Kurkowski
 - 2017 Jazmine Jefferson (University of Kansas - REU)
 - 2017 Derek Shank (Ohio Wesleyan University - DISC/REU) - video report
 - 2017 Diego Fernandez (University of Oregon - REU)
 - Travis Hodges (Austin Peay State University DISC/REU) 2016
 - 2016 Miguel Correa (San Diego State University - REU)
 - Siyu He (Xi'an Jiaotong University REU) 2015
- William Alves (Universidade de São Paulo) 2012-2014
- 2008-2010 Rafael Santucci (Universidade de São Paulo)

Committee Service - University of Norte Dame

- 2019-2020 Undergraduate Research, Department of Physics
- 2016-2018 Graduate Recruitment, Department of Physics
- 2015-2018 Preliminary Exam Committee, Department of Physics
- 2015-2018 University Committee on Research & Sponsored Programs, Notre Dame Research

Thesis Defense Committee

- 2018–2022 Heitor Ernandes (Ph.D. committee chair)
 - Universidade de São Paulo
 - 2021 Raphaela Fernandes de Melo (M.Sc.)
 - Observatório Nacional
 - 2019 Henrique Reggiani (Ph.D.)
 - Universidade de São Paulo
 - 2016 Rafael Miloni Santucci (Ph.D.)
 - Universidade de São Paulo
 - Camilo Francisco Javier Muñoz Peña (M.Sc.) 2016

Universidade de São Paulo

Teaching

Lead Instructor (LI) / Co-Instructor (CI) / Guest Lecturer (GL)

Undergraduate

			University of Notice Dame
	2020	(LI)	Descriptive Astronomy (SU20-PHYS-10140)
			Course Instructor Feedback: 5.0/5.0 - link to full report
		(LI)	Descriptive Astronomy (SP20-PHYS-10140)
			Course Instructor Feedback: 5.0/5.0 - link to full report
		(LI)	General Physics B - E & M Laboratory (SP20-PHYS-11422)
			Course Instructor Feedback: 5.0/5.0 - link to full report
		(GL)	Engineering Physics II Laboratory (SP20-PHYS-11320)
		(GL)	Engineering Physics I Laboratory (SP20-PHYS-11310)
	2019	(LI)	Physics A - Mechanics Laboratory (FA19-PHYS-11411)
			Course Instructor Feedback: 5.0/5.0 - link to full report
		(LI)	Descriptive Astronomy (SU19-PHYS-10140)
			Course Instructor Feedback: 5.0/5.0 - link to full report
	2018	(GL)	Descriptive Astronomy (FA18-PHYS-10140)
	2017	(CI)	Descriptive Astronomy (FA17-PHYS-10140)
		(LI)	General Physics B - E & M Laboratory (SP17-PHYS-11422)
			Course Instructor Feedback: 4.8/5.0 - link to full report
	2016	(GL)	Descriptive Astronomy (FA16-PHYS-10140)
	2015	(GL)	Modern Observational Techniques (FA15-PHYS-30481)
			Universidade Virtual do Estado de São Paulo
	2012	(LI)	Sky and Stars: An introduction
		(LI)	Galaxies: An introduction
	2011	(LI)	Sky and Stars: An introduction
		(LI)	Galaxies: An introduction
Grad	luate		
			University of Notre Dame
	2017	(CI)	Astrophysics: Stars (SP17-PHYS-80202)
	2016	(CI)	Large-Scale Astronomical Surveys (SP16-PHYS-70210)
	2015	(GL)	Astrophysics: Stars (SP15-PHYS-80202)
			Universidade de São Paulo
	2012	(GL)	Observational Astronomy

Teaching Assistant - Universidade de São Paulo

2009	Introduction to Astronomy
	Fundamental Astronomy
2008	Introduction to Astronomy
2007	Fundamental Astronomy

Other relevant information

Computing skills

Linux/Unix/MACOSX/Windows operating systems

Shell Scripting (sh, bash, tcsh, zsh)

LATEX, OpenOffice, MS Office. Co-author of the LATEX template IAGTESE

Python (iPython/Jupyter Notebooks): scipy, numpy, pandas, scikitlearn, pyfits, astropy

R-project (terminal/RStudio): FITSio, tidyverse, cluster, sciviews

Databases: SQL (PostgreSQL/pgAdmin3), SDSS CasJobs, ADQL (J-PLUS/J-PAS/TAPVizieR) Web: html, ccs, wordpress, apache, curl, wget, ssh, ftp, drupal, Google Analytics, Matomo

Graphics: Gnuplot, ggplot2, matplotlib, bokeh, tableau

Data reduction: IRAF/Pyraf packages, DRAGONS, ESO Reflex/Gasgano

Astronomy tools: WCSTools, CDSclient, STILTS, SkyCalc

Documentation: Sphinx, readthedocs

Version control and DevOps: Git, gitHub, GitLab

Online Resources

Webpage: http://vmplacco.github.io/

LinkedIn: https://www.linkedin.com/in/vinicius-placco/

GitHub: https://github.com/vmplacco/

stackoverflow: https://stackoverflow.com/users/5964833/vinicius-placco

pythonanywhere: https://vplacco.pythonanywhere.com/

Sample webpages/

side projects: http://vmplacco.github.io/#resources

Professional Affiliations/Service

Member of the American Astronomical Society

Member of the Brazilian Astronomical Society

Member of the Brazilian Physical Society

Member of the JINA Center for the Evolution of the Elements

Referee for the American Astronomical Society Journals

Referee for the AAAS Science Magazine

Referee for Astronomy & Astrophysics

Referee for Monthly Notices of the Royal Astronomical Society

* Invited / Contributed talks

2022

Centro Brasileiro de Pesquisas Físicas – S-PLUS 17th Collaboration Meeting Mining S-PLUS for Metal-Poor Stars in the Milky Way

- * Planetário da Gávea, Rio de Janeiro O Céu do Sul e suas Maravilhas SPLUS J2104–0049 e a Evolução Química do Universo
- * Universidade de São Paulo Astronomia ao Meio-dia (watch it on Youtube in Portuguese) A Tabela Periódica Astrofísica
- * Universidade de São Paulo Astrophysics Colloquium (watch it on Youtube)

 Is Carbon Ubiquitous in the High-Redshift Universe? A Stellar Archaeology perspective

Gemini Observatory Science Meeting 2022
Making good use of bad weather: a chemically pristine star found through the clouds with Gemini

Observatório Nacional – Seminário da Coordenação de Astronomia e Astrofísica Stellar Archaeology and Near-Field Cosmology: Understanding the Chemical Evolution of the Universe

2021

Universidade de São Paulo – S-PLUS 16th Collaboration Meeting Mining the S-PLUS catalog to find chemically peculiar stars in the Galaxy

- * Instituto Nacional de Pesquisas Espaciais Seminários da Divisão de Astrofísica (watch it on Youtube) Stellar Archaeology and Near-Field Cosmology: Understanding the Chemical Evolution of the Universe
- * Universidade Federal de Santa Catarina IX Encontro de Física e Astronomia da UFSC Stellar Archaeology and Near-Field Cosmology: Understanding the Chemical Evolution of the Universe
- * Joint Institute for Nuclear Astrophysics Physics of Atomic Nuclei High School Program
 The Age and Chemical Evolution of the Universe from Two Stars in the Milky Way

Universidade de São Paulo – S-PLUS 15th Collaboration Meeting Searching for low-metallicity stars in S-PLUS

* NSF's National Optical-Infrared Astronomy Research Laboratory – Live from NOIRLab @ Hawai'i (watch it on Youtube) A chemically-peculiar star found from its colors

2020

- * NSF's National Optical-Infrared Astronomy Research Laboratory Live from NOIRLab @ Hawai'i (watch it on Youtube)
 The Age and Chemical Evolution of the Universe from Two Stars in the Milky Way
- * NSF's National Optical-Infrared Astronomy Research Laboratory Gemini Observatory Science Coffee From R=40 to R=40,000: Mining narrow-band photometric catalogs in search of low-metallicity stars
- * Joint Institute for Nuclear Astrophysics Physics of Atomic Nuclei High School Program The Age and Chemical Evolution of the Universe from Two Stars in the Milky Way
- * Regional Center for Space Science and Technology Education for West Asia / Arab Union for Astronomy & Space Science Our eyes in the skies: How telescopes help us place ourselves in the Universe
- * NSF's National Optical-Infrared Astronomy Research Laboratory
 Near-Field Cosmology with Narrow-Band Photometry and Spectroscopy of Low-Metallicity Stars
- * Universidade de São Paulo Astrophysics Colloquium Near-Field Cosmology using Narrow-Band Photometry and Low-Metallicity Stars
- * Universidade de São Paulo Astronomia ao Meio-dia (watch it on Youtube in Portuguese) Agulhas no palheiro: A evolução química e idade do Universo contadas por duas estrelas

2019

- * National Optical Astronomy Observatory
 Stellar Archaeology: Understanding the Chemical Evolution of the Universe through Color Maps of the Night Sky
- * Joint Institute for Nuclear Astrophysics Physics of Atomic Nuclei High School Program The Age and Chemical Evolution of the Universe from two stars in the Milky Way

Consejo Superior de Investigaciones Científicas – 17th J-PAS Collaboration Meeting Identification of Low-Metallicity Stars from Narrow-Band Photometry

* San Francisco State University – Physics & Astronomy Colloquium Stellar Archaeology: Origin of the Chemical Elements in the Universe through a 59-Color Map of the Sky

2018

* Kavli IPMU at The University of Tokyo – Stellar Archaeology as a Time Machine to the First Stars The Mass Distribution of the First Stars revealed by Abundance Pattern Matching of Ultra Metal-Poor Stars

Kavli IPMU at The University of Tokyo – Introduction to Stellar Archaeology Radioactive Stellar Ages

- * Texas A&M University Commerce Physics & Astronomy Colloquium
 Stellar Archaeology: Understanding the Origin of the Chemical Elements through a 59-Color Map of the Night Sky
- * Chungnam National University Department of Astronomy & Space Science Seminar The Origin of the Chemical Elements in the Universe revealed by a 12-Color Map of the Night Sky
- * Korea Astronomy and Space Science Institute Colloquium
 Constraints on Near-Field Cosmology through Abundance Pattern Matching of Ultra Metal-Poor Stars
- * Universidade de São Paulo Astronomy Colloquium
 The Southern Photometric Local Universe Survey (S-PLUS): An Overview

Universidade de São Paulo – S-PLUS Meeting Short update on S-PLUS SHORTS

University of Notre Dame – Astronomy 1-minute talks (23 presenters) Organizer

* University of Notre Dame – Our Universe Revealed A day in the life of an Astronomer

Kavli Institute for Cosmological Physics – Near-Field Cosmology with the Dark Energy Survey The Age Structure of the Milky Way Halo revealed by DES

* Joint Institute for Nuclear Astrophysics – Physics of Atomic Nuclei High School Program Can we talk about the Age and Chemical Evolution of the Universe by looking at only two stars?

Centro de Estudios de Física del Cosmos de Aragón – J-PLUS $2^{\rm nd}$ Virtual Meeting *J-PLUS Stellar Parameter Value Added Catalog*

- * Shanghai Jiao Tong University Tsung-Dao Lee Institute Workshop on The Exploding Universe Probing the mass distribution of the first stars through abundance pattern matching of ultra metal-poor stars
- * JINA-CEE Frontiers in Nuclear Astrophysics Main Conference Observational constraints on the origin of the elements: from First stars to Neutron-Star mergers
- * Manhattan College Physics Department Understanding the Origin of the Elements in the Universe through a 12-Color Map of the Night Sky
- * JINA-CEE Frontiers in Nuclear Astrophysics Junior Workshop Speaking Skills
- * Centro de Estudios de Física del Cosmos de Aragón 16th J-PAS Collaboration Meeting Pathfinder science Constraints on First-Star Nucleosynthesis from J-PAS Photometry of Low-Metallicity Stars

Universidade de São Paulo – S-PLUS Collaboration Meeting (online) Updates on S-PLUS Short Survey(s)

2017

Universidade de São Paulo – S-PLUS Collaboration Meeting (online) Updates on S-PLUS Short Survey(s)

* Michiana Astronomical Society – MAS monthly meeting speaker A Tale of Two Stars: Revealing the Age and Chemical Evolution of the Universe

University of Notre Dame – Astro-Skills Lunch *The do's and don'ts when plotting data*

Red de Infraestructuras de Astronomia – Early Data Release and Scientific Exploitation of the J-PLUS Survey Identification of (Bright) Carbon-Enhanced Metal-Poor Stars with J-PLUS Photometry

GMT Community Science Meeting – Chemical Evolution of the Universe

A Monte Carlo approach to find the Progenitors of Ultra Metal-Poor Stars (Rapid Poster Talk)

University of Notre Dame – The Great American Eclipse at Notre Dame Co-organizer / Astronomy faculty representative – 3,500 attendees

* University of Notre Dame – Research Experiences for Undergraduates (REU) Program
A needle in a haystack: What one star can tell us about the age and chemical evolution of the entire Universe

Centro de Estudios de Física del Cosmos de Aragón – J-PLUS $1^{\rm st}$ Virtual Meeting Identifying (Carbon-Enhanced) Metal-Poor Stars from J-PLUS Photometry

- * Joint Institute for Nuclear Astrophysics Physics of Atomic Nuclei High School Program Stellar Archaeology: The Age and Chemistry of the Universe revealed by old Stars
- * Universidade de São Paulo Astrophysics Colloquium Searching for the Origin of the Elements Using a 12-Color Map of the Night Sky

2016

- * University of Notre Dame Astrophysics Seminar
 A Monte Carlo approach to find the Progenitors of Ultra Metal-Poor Stars
- * University of Notre Dame Department of Physics Colloquium
 Searching for the Origin of the Elements Using a 12-Color Map of the Night Sky

University of Notre Dame – Astronomy 1-minute talks (19 presenters) Organizer

Universidade de São Paulo – X-PLUS Collaboration Meeting Identifying Bright Carbon-Enhanced Metal-Poor Stars from S-PLUS Photometry

- * University of Notre Dame Research Experiences for Undergraduates (REU) Program Near-Field Cosmology with Metal-Poor Stars
- * University of Notre Dame Our Universe Revealed A day in the life of an Astronomer

University of Notre Dame – Our Universe Revealed Our eyes in the skies: How telescopes help us place ourselves in the Universe

227th Meeting of the American Astronomical Society Identifying Bright Carbon-Enhanced Metal-Poor Stars in the RAVE Catalog

2015

University of Notre Dame – Our Universe Revealed The stuff we are made of: how do we determine the chemical elements in stars and the Universe?

University of Notre Dame – Astronomy 1-minute talks (15 presenters) Organizer

- * Joint Institute for Nuclear Astrophysics / University of Notre Dame High School On Air Talk Stellar Archaeology: The Age and Chemistry of the Universe revealed by old Stars – YouTube video
- * Michigan State University JINA-CEE Nuclear Astrophysics Lunch Research Discussions Observing the First Stars through the Atmospheres of Ultra Metal-Poor Stars

Universidade de São Paulo – X-PLUS Collaboration Meeting Identifying Carbon-Enhanced Metal-Poor Stars from S-PLUS Photometry

University of Notre Dame – Research Experiences for Undergraduates (REU) Program Galactic Archaeology: The Chemical Evolution and Age of the Universe revealed by old Stars

2014

- * University of Notre Dame Astronomy Seminar
 Exploring the history of the Galactic halo with Carbon-Enhanced Metal-Poor stars
- * Massachusetts Institute of Technology Kavli Institute Exploring the history of the Galactic halo with Carbon-Enhanced Metal-Poor stars

2013

National Optical Astronomy Observatory (Carbon Enhanced) metal-poor stars and the chemical evolution of the Universe

* Gemini Observatory – Northern Operations Center Metal-poor stars as tracers of the chemical evolution of the Galaxy

2012

- * Universidade Cruzeiro do Sul Astronomy Colloquium Search for Carbon-Enhanced Metal-Poor stars in the Halo(es) of the Galaxy
- * Universidade de São Paulo Astronomy Colloquium Spectroscopy from R=300 to 30000: metal-poor stars and Galactic chemical evolution
- * Universidade de São Paulo Invitation to Physics: undergraduate weekly seminar Galactic Archaeology: chemical evolution of the Universe revealed by metal-poor stars

Universidade de São Paulo - Astronomy at noon: undergraduate weekly seminar Census of the Milky Way

2011

Universidade de São Paulo - Chemical Evolution Group Seminar Rediscovering the Dual Halo of the Milky Way via Hierarquical Clustering

Universidade de São Paulo - Astronomy at noon: undergraduate weekly seminar Stellar Archaeology

Universidade de São Paulo - Astronomy Colloquium Making good use of bad weather: finding extremely metal-poor stars in the clouds

* ESO Headquarters - Santiago - Astronomy Colloquium Searches for Metal-Poor Stars from the Hamburg/ESO Survey using the CH G-band

Quantitative Indicators

- ADS: 6245 citations / h-index = 35 / i10-index = 82 (September 11, 2022 ADS link)
- Google Scholar: 7624 citations / h-index = 38 / i10-index = 83 (September 11, 2022 Google Scholar link)
- ADS Publication List (complete ADS link) / (refereed only ADS link)
- ORCID iD 0000-0003-4479-1265 / ResearcherID C-6864-2015

Publication list

Refereed articles

Total: 109 publications (incl. 16 first, 11 second, 15 third, and 15 fourth author articles)



- 109. Zepeda, J., Beers, T. C., Placco, V. M., Shank, D., Gudin, D., Hirai, Y., Yoon, J., Mardini, M., Pifer, C., Catapano, T., Calagna, S. Chemo-Dynamically Tagged Groups of CEMP Stars in the Halo of the Milky Way. I. Untangling the Origins of CEMP-s and CEMP-no Stars
 - 2022, The Astrophysical Journal, submitted
- Shank, D., Beers, T., Placco, V. M., Gudin, D., Catapano, T., Holmbeck, E. M., Ezzeddine, R., Roederer, I. U., Sakari, C. M., Frebel, A. Hansen, T. T.
 The B. Process Allience Change Dynamically Toward Crowns II. An Extended Sample of Holes in Process Enhanced
 - The R-Process Alliance: Chemo-Dynamically Tagged Groups II. An Extended Sample of Halo r-Process-Enhanced Stars
 - 2022, The Astrophysical Journal, submitted
- 107. Mardini, M., Frebel, A., Ezzeddine, R., Chiti, A., Meiron, Y., Ji, A., Placco, V. M., Roederer, I., Meléndez, J. *The chemical abundance pattern of the extremely metal-poor thin disk star 2MASS J1808—5104 and its origins* 2022, Monthly Notices of the Royal Astronomical Society, submitted
- Schatz, H., Becerril Reyes, A. D., Best, A., Brown, E. F., Chatziioannou, K., Chipps, K. A., Deibel, C. M., Ezzeddine, R., Galloway, D. K., Hansen, C. J., Herwig, F., Ji, A. P., Lugaro, M., Meisel, Z., Norman, D., Read, J. S., Roberts, L. F., Spyrou, A., Tews, I., Timmes, F. X., Travaglio, C., Vassh, N., Abia, C., Adsley, P., Agarwal, S., Aliotta, M., Aoki, W., Arcones, A., Aryan, A., Bandyopadhyay, A., Banu, A., Bardayan, D. W., Barnes, J., Bauswein, A., Beers, T. C., Bishop, J., Boztepe, T., Côté, B., Caplan, M. E., Champagne, A. E., Clark, J. A., Couder, M., Couture, A., de Mink, S. E., Debnath, S., deBoer, R. J., den Hartogh, J., Denissenkov, P., Dexheimer, V., Dillmann, I., Escher, J. E., Famiano, M. A., Farmer, R., Fisher, R., Fröhlich, C., Frebel, A., Fryer, C., Fuller, G., Ganguly, A. K., Ghosh, S., Gibson, B., Gorda, T., Gourgouliatos, K., Graber, V., Gupta, M., Haxton, W., Heger, A., Hix, W. R., Ho, W. C., Holmbeck, E. M., Hood, A., Huth, S., Imbriani, G., Izzard, R., Jain, R., Jayatissa, H., Johnston, Z., Kajino, T., Kankainen, A., Kiss, G., Kwiatkowski, A., La Cognata, M.,

Laird, A., Lamia, L., Landry, P., Laplace, E., Launey, K., Leahy, D., Leckenby, G., Lennarz, A., Longfellow, B., Lovell, A., Lynch, W., Lyons, S., Maeda, K., Masha, E., Matei, C., Merc, J., Messer, B., Montes, F., Mukherjee, A., Mumpower, M., Neto, D., Nevins, B., Newton, W., Nguyen, L. Q., Nishikawa, K., Nishimura, N., Nunes, F., O'Connor, E., O'Shea, B., Ong, W-J., Pain, S., Pajkos, M., Pignatari, M., Pizzone, R., Placco, V. M., et al. Horizons: Nuclear Astrophysics in the 2020s and Beyond

2022, Journal of Physics G, submitted

- 105. Hackshaw, Z., Ezzeddine, R., Shank, D., Shah, S., Beers, T. C., Frebel, A. Hansen, T. T., Holmbeck, E. M., Ji, A. P., Kowkabany, J., Placco, V. M., Roederer, I. U., Sakari, C. M. The R-Process Alliance: Accretion origin of a highly enhanced r-process star from an LMC UFD satellite 2022, The Astrophysical Journal, submitted
- 104. Kowkabany, J., Ezzeddine, R., Charbonnel, C., Roederer, I. U., Li, Y., Hackshaw, Z., Beers, T. C., Frebel, A. Hansen, T. T., Holmbeck, E. M., Placco, V. M., Sakari, C. M. Discovery of an Ultra Lithium-rich Metal-Poor Red Giant star 2022, The Astrophysical Journal, submitted
- 103. Razera, R., Barbuy, B., Moura, T., Ernandes, H., Pérez-Villegas, A., Souza, S. O., Chiappini, C., Queiroz, A. B. A., Anders, F., Fernández-Trincado, J. G., Friaça, A. C. S., Cunha, K., Smith, V. V., Santiago, B. X., Schiavon, R. P., Valentini, M., Minniti, D., Schultheis, M., Geisler, D., Sobeck, J., Placco, V. M., Zoccali, M. *Abundance analysis of 58 APOGEE metal-poor spheroid bulge stars*2022, Monthly Notices of the Royal Astronomical Society, in press
- Placco, V. M., Almeida-Fernandes, F., Arentsen, A., Lee, Y. S., Schoenell, W., Ribeiro, T., Kanaan, A. Mining S-PLUS for Metal-Poor Stars in the Milky Way
 The Astrophysical Journal Supplement Series, in press vol. 262, 8 (ADS link | download pdf)
- 101. Roederer, I. U., Cowan, J. J., Pignatari, M., Beers, T. C., Den Hartog, E. A., Ezzeddine, R., Frebel, A. Hansen, T. T., Holmbeck, E. M., Mumpower, M. R., Placco, V. M., Sakari, C. M., Surman, R., Vassh, N. The R-Process Alliance: Abundance Universality among Some Elements at and between the First and Second R-Process Peaks

 2022, The Astrophysical Journal, vol. 936, 84 (ADS link | download pdf)
- 100. Arentsen, A., Placco, V. M., Lee, Y. S., Aguado, D. S., Martin, N. F., Starkenburg, E., Yoon, J.

 On the inconsistency of [C/Fe] abundances and the fractions of carbon-enhanced metal-poor stars among various stellar surveys

 2022. Marthly Nations of the Bourd Astronomical Society, vol. 515, 4002 (ADS link) developed add.
 - 2022, Monthly Notices of the Royal Astronomical Society, vol. 515, 4082 (ADS link | download pdf)
- 99. Shank, D., Komater, D., Beers, T., Placco, V. M., Huang, Y.

 Dynamically Tagged Groups of Metal-Poor Stars II. The Radial Velocity Experiment Data Release 6

 2022, The Astrophysical Journal Supplement Series, vol. 261, 19 (ADS link | download pdf)
- Roederer, I. U., Lawler, J. E., Den Hartog, E. A., Placco, V. M., Surman, R., Beers, T. C., Ezzeddine, R., Frebel, A. Hansen, T. T., Hattori, K., Holmbeck, E. M., Sakari, C. M.
 The R-Process Alliance: A Nearly Complete R-Process Abundance Template Derived from Ultraviolet Spectroscopy of the R-Process-Enhanced Metal-Poor Star HD 222925
 2022, The Astrophysical Journal Supplement Series, vol. 260, 27 (ADS link | download pdf)
- 97. Aoki, W., Beers, T. C., Honda, S., Ishikawa, H. T., Matsuno, T., Placco, V. M., Yoon, J., Harakawa, H., Hirano, T., Hodapp, K., Ishizuka, M., Jacobson, S., Kotani, T., Kudo, T., Kurokawa, Y., Kuzuhara, M., Nishikawa, J., Omiya, M., Serizawa, T., Tamura, M., Ueda, A., Vievard, S. Silicon and Strontium abundances of very metal-poor stars determined from near-infrared spectra 2022, Publications of the Astronomical Society of Japan, vol. 74, 273 (ADS link | download pdf)
- Zepeda, J., Rasmussen, K. C., Beers, T., Placco, V. M., Huang, Y., Depagne, É.
 Metal-Poor Stars Observed with the Southern African Large Telescope II. An Extended Sample 2022, The Astrophysical Journal, vol. 927, 13 (ADS link | download pdf)

95. Almeida-Fernandes, F., Sampedro, L., Herpich, F. R., Molino, A., Barbosa, C. E., Buzzo, M. L., Overzier, R. A., de Lima, E. V. R., Nakazono, L. M. I., Oliveira Schwarz, G. B., Perottoni, H. D., Bolutavicius, G. L., Gutiérrez-Soto, L. A., Santos-Silva, T., Vitorelli, A. Z., Werle, A., Whitten, D. D., Costa Duarte, M. V., Bom, C. R., Coelho, P., Sodré Jr., L., Placco, V. M., Teixeira, G. S. M., Alonso-García, J., Beers, T. C., Kanaan, A. Ribeiro, T., Schoenell, W., Mendes de Oliveira, C. Data Release 2 of S-PLUS: Accurate template-fitting based photometry covering 1000 deg² in 12 optical filters 2022, Monthly Notices of the Royal Astronomical Society, vol. 511, 4590 (ADS link | download pdf)

- 94. Shank, D., Beers, T., Placco, V. M., Limberg, G., Jaques, E., Yuan, Zhen, Schlaufman, K. C., Casey, A. R., Huang, Y., Lee, Y. S., Hattori, K., Santucci, R. M. *Dynamically Tagged Groups of Metal-Poor Stars from the Best & Brightest Survey* 2022, The Astrophysical Journal, in press (ADS link | download pdf)
- 93. Galarza, C. A., Daflon, S., Placco, V. M., Allende Prieto, C. Borges Fernandes, M., Yuan, H., López-Sanjuan, C., Lee, Y. S., Solano, E., Jiménez-Esteban, F., Sobral, D., Alvarez-Candal, A., Pereira, C. B., Akras, S., Martín, E., Jiménez-Teja, Y., Cenarro, J., Cristóbal-Hornillos, D., Hernández-Monteagudo, C., Marín-Franch, A., Moles, M., Varela, J., Vázquez Ramió, H., Alcaniz, J., Dupke, R., Ederoclite, A., Sodré Jr., L., Angulo, R. *J-PLUS: Searching for very metal-poor star candidates using the SPEEM pipeline* 2022, Astronomy & Astrophysics, vol. 657, A35 (ADS link | download pdf)
- 92. López-Sanjuan, C., Yuan, H., Vázquez Ramió, H., Varela, J., Cristóbal-Hornillos, D., Tremblay, P. -E., Marín-Franch, A., Cenarro, A., Ederoclite, A., Alfaro, E., Alvarez-Candal, A., Daflon, S., Hernán-Caballero, A., Hernández-Monteagudo, C., Jiménez-Esteban, F., Placco, V. M., Tempel, E., Alcaniz, J., Angulo, R., Dupke, R., Moles, M., Sodré Jr., L. *J-PLUS: Systematic impact of metallicity on photometric calibration with the stellar locus* 2021, Astronomy & Astrophysics, vol. 654, A61 (ADS link | download pdf)
- 91. Bonoli, S., Marín-Franch, A., Varela, J., Vázquez Ramió, H., Abramo, L. R., Cenarro, A. J., Dupke, R. A., Vílchez, J. M., Cristóbal-Hornillos, D., González Delgado, R. M., Hernández-Monteagudo, C., López-Sanjuan, C., Muniesa, D., Civera, T., Ederoclite, A., Hernán-Caballero, A., Marra, V., Baqui, P., Cortesi, A., Cypriano, E., Daflon, S., de Amorim, A., Díaz-García, L., Diego, J., Martínez-Solaeche, G., Pérez, E., Placco, V. M., et al. *The miniJPAS survey: a preview of the Universe in 56 colours*2021, Astronomy & Astrophysics, vol. 653, A31 (ADS link | download pdf)
- Arentsen, A., Starkenburg, E., Aguado, D. S., Martin, N. F., Placco, V. M., Carlberg, R., González Hernández, J. I., Hill, V., Jablonka, P., Kordopatis, G., Lardo, C., Mashonkina, L. I., Navarro, J. F., Venn, K. A., Buder, S., Lewis, G. F., Wan, Z., Zucker, D. B.
 The Pristine Inner Galaxy Survey (PIGS) III: carbon-enhanced metal-poor stars in the bulge
 2021, Monthly Notices of the Royal Astronomical Society, vol. 505, 1239 (ADS link | download pdf)
- Dietz, S. E., Yoon, J., Beers, T. C., Placco, V. M., Lee, Y. S.
 Two Populations of Carbon-Enhanced Metal-Poor Stars in the Disk System of the Milky Way 2021, The Astrophysical Journal, vol. 914, 100 (ADS link | download pdf)
- 88. Limberg, G., Santucci, R. M., Rossi, S., Shank, D., **Placco, V. M.**, Beers, T., Schlaufman, K. C., Casey, A. R., Perottoni, H. D., Lee, Y. S.

 Targeting Bright Metal-poor Stars in the Disk and Halo Systems of the Galaxy

 2021, The Astrophysical Journal, vol. 913, 11 (ADS link | download pdf)
- 87. Placco, V. M., Roederer, I. U., Lee, Y. S., Almeida-Fernandes, F., Herpich, F. R., Perottoni, H. D., Schoenell, W., Ribeiro, T., Kanaan, A. SPLUS J210428.01—004934.2: An Ultra Metal-Poor Star Identified from Narrow-Band Photometry 2021, The Astrophysical Journal Letters, vol. 912, 32 (ADS link | download pdf)
- 86. Whitten, D. D., Placco, V. M., Beers, T., An, D., Lee, Y. S., Almeida-Fernandes, F., Herpich, F., Daflon, S., Barbosa, C., Perottoni, H., Rossi, S., Tissera, P., Yoon, J., Schoenell, W., Ribeiro, T., Kanaan, A., Youakim, K.

The Photometric Metallicity and Carbon Distributions of the Milky Way's Halo and Solar Neighborhood from S-PLUS Observations of SDSS Stripe 82

- 2021, The Astrophysical Journal, vol. 912, 147 (ADS link | download pdf)
- 85. Fernández-Trincado, J. G., Beers, T., Minniti, D., Carigi, L., Placco, V. M., Chun, S., Lane, R., Geisler, D., Villanova, S. Souza, S., Barbuy, B., Pérez-Villegas, A., Chiappini, C., Queiroz, A., Tang, B., Alonso-García, J., Piatti, A., Palma, T. Alves-Brito, A., Moni Bidin, C., Roman-Lopes, A., Muñoz, R., Singh, H., Kundu, R., Chaves-Velasquez, L., Romero-Colmenares, M., Longa-Peña, P., Soto, M., Vieira, K. APOGEE discovery of a chemically atypical star disrupted from NGC 6723 and captured by the Milky Way bulge 2021, Astronomy & Astrophysics, vol. 647,64 (ADS link | download pdf)
- 84. Gudin, D., Shank, D., Beers, T. C., Yuan, Z., Limberg, G., Roederer, I. U., **Placco, V. M.**, Holmbeck, E. M., Dietz, S., Rasmussen, K. C., Hansen, T. T., Sakari, C. M, Ezzeddine, R., Frebel, A. *The R-Process Alliance: Chemodynamically Tagged Groups of Halo r-Process-Enhanced Stars Reveal a Shared Chemical-Evolution History*2021, The Astrophysical Journal, vol. 908, 79 (ADS link | download pdf)
- 83. Limberg, G., Rossi, S., Beers, T., Perottoni, H., Pérez-Villegas, A., Santucci, R., Abuchaim, Y., **Placco, V. M.**, Lee, Y. S., Christlieb, N., Norris, J. E., Bessell, M., Ryan, S. G., Wilhelm, R., Rhee, J., Frebel, A. *Dynamically Tagged Groups of Very Metal-Poor Halo Stars from the HK and Hamburg/ESO Surveys* 2021, The Astrophysical Journal, vol. 907, 10 (ADS link | download pdf)
- 82. Baqui, P., Marra, V., Casarini, L., Angulo, R., Díaz-García, L., Hernández-Monteagudo, C., Lopes, P. A., López-Sanjuan, C., Muniesa, D., Placco, V. M., Quartin, M., Queiroz, C., Sobral, D., Solano, E., Tempel, E., Varela, J., Vílchez, J. M., Abramo, L. R., Alcaniz, J., Benitez, N., Bonoli, S., Carneiro, S., Cenarro, A. J., Cristóbal-Hornillos, D., de Amorim, A., de Oliveira, C. M., Dupke, R. A., Ederoclite, A., González Delgado, R. M., Marín-Franch, A., Moles, M., Vázquez Ramió, H., Sodré, L., Taylor, K.

 The miniJPAS survey: star-galaxy classification using machine learning
 2021, Astronomy & Astrophysics, vol. 645, A87 (ADS link | download pdf)
- Rasmussen, K., Zepeda, J., Beers, T. C., Placco, V. M., Depagne, É., Frebel, A., Dietz, S., Hartwig, T. Metal-Poor Stars Observed with the Southern African Large Telescope
 The Astrophysical Journal, vol. 905, 20 (ADS link | download pdf)
- Mardini, M. K., Placco, V. M., Meiron, Y., Ishchenko, M., Avramov, B., Mazzarini, M., Berczik, P., Arca Sedda, M. Beers, T. C., Frebel, A., Taani, A., Donnari, M., Al-Wardat, M. A., Zhao, G. Cosmological Insights into the Early Accretion of r-Process-Enhanced stars. I. A Comprehensive Chemodynamical Analysis of LAMOST J1109+0754
 The Astrophysical Journal, vol. 903, 88 (ADS link | download pdf)
- 79. Fernández-Trincado, J. G., Minniti, D., Beers, T., Villanova, S. Geisler, D., Souza, S., Smith, L., Placco, V. M., Vieira, K., Pérez-Villegas, A., Barbuy, B., Alves-Brito, A., Bidin, C. M., Alonso-García, J., Tang, B., Palma, T. The enigmatic globular cluster UKS 1 obscured by the bulge: H-band discovery of nitrogen-enhanced stars 2020, Astronomy & Astrophysics, vol. 643, 145 (ADS link | download pdf)
- Fernández-Trincado, J. G., Beers, T. C., Minniti, D., Carigi, L., Barbuy, B., Placco, V. M., Moni Bidin, C., Villanova, S. Roman-Lopes, A., Nitschelm, C. Discovery of a Large Population of Nitrogen-Enhanced Stars in the Magellanic Clouds
 The Astrophysical Journal Letters, vol. 903, 17 (ADS link | download pdf)
- Roederer, I. U., Lawler, J. E., Holmbeck, E. M., Beers, T. C., Ezzeddine, R., Frebel, A., Hansen, T. T., Ivans, I. I., Karakas, A. I., Placco, V. M., Sakari, C. M.
 Detection of Pb II in the Ultraviolet Spectra of Three Metal-Poor Stars

 2020, The Astrophysical Journal Letters, vol. 902, 24 (ADS link | download pdf)
- 76. Holmbeck, E. M., Hansen, T. T., Beers, T. C., Placco, V. M., Whitten, D. D., Rasmussen, K. C., Roederer, I. U., Sakari, C., Ezzeddine, R., Frebel, A., Drout, M. R., Simon, J. D., Thompson, I. B., Bland-Hawthorn, J.,

- Gibson, B. K., Grebel, E. K., Kordopatis, G., Kunder, A., Meléndez, J., Navarro, J. F., Reid, W. A., Seabroke, G., Steinmetz, M., Watson, F., Wyse, R. F. G.
- The R-Process Alliance: Fourth Data Release from the Search for R-Process-Enhanced Stars in the Galactic Halo **2020**, **The Astrophysical Journal Supplement Series**, vol. 249, 30 (ADS link | download pdf)
- 75. Ezzeddine, R., Rasmussen, K., Frebel, A., Chiti, A., Hinojisa, K., Placco, V. M., Ji, A. P., Beers, T. C., Hansen, T. T., Roederer, I. U., Sakari, C. M., Melendez, J. The R-Process Alliance: First Magellan/MIKE Release from the Southern Search for R-Process-enhanced Stars 2020, The Astrophysical Journal, vol. 898, 150 (ADS link | download pdf)
- 74. Cain, M., Frebel, A., Ji, A. P., Placco, V. M., Ezzeddine, R., Roederer, I. U., Hattori, K., Beers, T. C., Meléndez, J., Hansen, T. T., Sakari, C. The R-Process Alliance: A Very Metal-Poor, Extremely r-Process-Enhanced Star with [Eu/Fe] = +2.2, and the Class of r-III Stars
 2020, The Astrophysical Journal, vol. 898, 40 (ADS link | download pdf)
- 73. Placco, V. M., Santucci, R. M., Yuan, Z., Mardini, M. K., Holmbeck, E. M., Wang, X., Surman, R., Hansen, T., Roederer, I. U., Beers, T., Choplin, A., Ji, A., Ezzeddine, R., Frebel, A., Sakari, C., Whitten, D., Zepeda, J. The R-Process Alliance: The Peculiar Chemical Abundance Pattern of RAVE J183013.5—455510 2020, The Astrophysical Journal, vol. 897, 78 (ADS link | download pdf)
- 72. Molino, A., Costa-Duarte, M. V., Sampedro, L., Herpich, F. R., Sodré, L., Jr., Mendes de Oliveira, C., Schoenell, W., Barbosa, C. E., Queiroz, C., Lima, E. V. R., Azanha, L., Muñoz-Elgueta, N., Ribeiro, T., Kanaan, A., Hernandez-Jimenez, J. A., Cortesi, A., Akras, S., Lopes de Oliveira, R., Torres-Flores, S., Lima-Dias, C., Nilo Castellon, J. L., Damke, G., Alvarez-Candal, A., Jiménez-Teja, Y., Coelho, P., Pereira, E., Montero-Dorta, A. D., Benítez, N., Gonçalves, T. S., Santana-Silva, L., Werner, S. V., Almeida, L. A., Lopes, P. A. A., Chies-Santos, A. L., Telles, E., de Souza, T. C. R., Gonçalves, D. R., de Souza, R. S., Makler, M., Placco, V. M., Nakazono, L. M. I., Saito, R. K., Overzier, R. A., Abramo, L. R. Assessing the photometric redshift precision of the S-PLUS survey: the Stripe-82 as a test-case 2020, Monthly Notices of the Royal Astronomical Society, vol. 499, 3884 (ADS link | download pdf)
- 71. Dietz, S. E., Yoon, J., Beers, T. C., **Placco, V. M.**The Metallicity Gradient and Complex Formation History of the Outermost Halo of the Milky Way 2020, The Astrophysical Journal, vol. 894, 34 (ADS link | download pdf)
- 70. Yoon, J., Whitten, D. D., Beers, T. C., Lee, Y. S., Masseron, T., Placco, V. M. *Identification of a Group III CEMP-no Star in the Dwarf Spheroidal Galaxy Canes Venatici I* 2020, The Astrophysical Journal, vol. 894, 7 (ADS link | download pdf)
- Yuan, Z., Myeong, G. C., Beers, T. C., Evans, N. W., Lee, Y. S., Banerjee, P., Gudin, D., Hattori, K., Li, H., Matsuno, T., Placco, V. M., Smith, M. C., Whitten, D. D., Zhao, G. Dynamical Relics of the Ancient Galactic Halo
 2020, The Astrophysical Journal, vol. 891, 39 (ADS link | download pdf)
- Andrade-Santos, F., van Weeren, R. J., Di Gennaro, G., Wittman, D., Ryu, D., Lal, D. V., Placco, V. M., Fogarty, K., Jee, M. J., Stroe, A., Sobral, D., Forman, W. R., Jones, C., Kraft, R. P., Murray, S. S., Brüggen, M., Kang, H., Santucci, R. M., Golovich, N., Dawson, W. A. Chandra Observations of the Spectacular A3411—12 Merger Event
 2019, The Astrophysical Journal, vol. 887, 31 (ADS link | download pdf)
- 67. Fernández-Trincado, J. G., Mennickent, R., Cabezas, M., Zamora, O., Martell, S., Beers, T. C., Placco, V. M., Nataf, D., Mészáros, S., Minniti, D., Schleicher, D. R., Tang, B., Pérez-Villegas, A., Robin, A. C., Reylé, C. Discovery of a nitrogen-enhanced mildly metal-poor binary system: Possible evidence for pollution from an extinct ACD star
 - 2019, Astronomy & Astrophysics, vol. 631, A97 (ADS link | download pdf)

66. Fernández-Trincado, J. G., Beers, T. C., Placco, V. M., Moreno, E., Alves-Brito, A., Minniti, D., Tang, B., Pérez-Villegas, A., Reylé, C., Robin, A. C., Villanova, S. Discovery of a New Stellar Subpopulation Residing in the (Inner) Stellar Halo of the Milky Way 2019, The Astrophysical Journal Letters, vol. 886, 8 (ADS link | download pdf)

- 65. López-Sanjuan, C., Varela, J., Cristóbal-Hornillos, D., Vázquez Ramió, H., Carrasco, J. M., Tremblay, P. -E., Whitten, D., Placco, V. M., Marín-Franch, A., Cenarro, A., Ederoclite, A., Alfaro, E., Coelho, P., Civera, T., Hernández-Fuertes, J., Jiménez-Esteban, F., Jiménez-Teja, Y., Maíz Apellániz, J., Sobral, D., Vílchez, J., Alcaniz, J., Angulo, R., Dupke, R., Hernández-Monteagudo, C., Mendes de Oliveira, C., Moles, M., Sodré Jr., L. J-PLUS: Photometric Calibration of Large-Area Multi-Filter Surveys with Stellar and White Dwarf loci 2019, Astronomy & Astrophysics, vol. 631, A119 (ADS link | download pdf)
- 64. Whitten, D. D., Beers, T. C., Placco, V. M., Santucci, R. M., Denisenkov, P., Tissera, P. B., Mejías, A., Hernitschek, N., Carollo, D. Constraints on the Galactic Inner Halo Assembly History from the Age Gradient of Blue Horizontal-Branch Stars 2019, The Astrophysical Journal, vol. 884, 67 (ADS link | download pdf)
- 63. Mendes de Oliveira, C., Ribeiro, T., Schoenell, W., Kanaan, A., Overzier, R., Molino, A., Sampedro, L., Coelho, P., Barbosa, C., Cortesi, A., Costa-Duarte, M. V., Herpich, F. R., Hernandez-Jimenez, J., Placco, V. M., et al. The Southern Photometric Local Universe Survey (S-PLUS): improved SEDs, morphologies and redshifts with 12 optical filters
 - 2019, Monthly Notices of the Royal Astronomical Society, vol. 489, 241 (ADS link | download pdf)
- 62. Mardini, M. K., Placco, V. M., Taani, A., Li, H., Zhao, G.

 Metal-Poor Stars Observed with the Automated Planet Finder Telescope. II. Chemodynamical Analysis of Six

 Low-Metallicity Stars in the Halo System of the Milky Way

 2019, The Astrophysical Journal, vol. 882, 27 (ADS link | download pdf)
- 61. Ezzeddine, R., Frebel, A., Roederer, I. U., Tominaga, N., Tumlinson, J., Ishigaki, M., Nomoto, K., Placco, V. M., Aoki, W. Evidence for an Aspherical Population III Supernova Explosion Inferred from the Hyper Metal-Poor Star HE 1327—2326 2019, The Astrophysical Journal, vol. 876, 97 (ADS link | download pdf)
- 60. Mardini, M. K., Li., H., Placco, V. M., Alexeeva, S., Carollo, D., Taani, A., Ablimit, I., Wang, L., Zhao, G. *Metal-Poor Stars Observed with the Automated Planet Finder Telescope. I. Discovery of Five Carbon-Enhanced Metal-Poor Stars from LAMOST*2019, The Astrophysical Journal, vol. 875, 89 (ADS link | download pdf)
- 59. Sakari, C. M., Roederer, I. U., Placco, V. M., Beers, T. C., Ezzeddine, R., Frebel, A., Hansen, T. T., Sneden, C., Cowan, J. J., Wallerstein, G., Farrell, E. M., Venn, K. A. Matijevič, G., Wyse, R., Bland-Hawthorn, J., Chiappini, C., Freeman, K. C., Gibson, B. K., Grebel, E. K., Helmi, A., Kordopatis, G., Kunder, A., Navarro, J. Reid, W., Seabroke, G., Steinmetz, M., Watson, F.
 The R-Process Alliance: Discovery of a Low-α, r-process-enhanced Metal-poor Star in the Galactic Halo
 2019, The Astrophysical Journal, vol. 874, 148 (ADS link | download pdf)
- 58. Hansen, C. J., Hansen, T. T., Koch, A., Beers, T. C., Nordström, B., **Placco, V. M.**, Andersen, J. Abundances and kinematics of carbon-enhanced metal-poor stars in the Galactic halo. A new classification scheme based on Sr and Ba

 2019, Astronomy & Astrophysics, vol. 623, A128 (ADS link | download pdf)
- 57. Cenarro, A., Moles, M., Cristóbal-Hornillos, D., Marín-Franch, A., Ederoclite, A., Varela, J., López-Sanjuan, C., Hernández-Monteagudo, C., Angulo, R., Vázquez Ramió, H., Viironen, K., Bonoli, S., Orsi, A., Hurier, G., San Roman, I., Vilella-Rojo, G., Díaz-García, L., Logroño-García, R., Gurung-López, S., Spinoso, D., Izquierdo-Villalba, D., Aguerri, J., Allende Prieto, C., Bonatto, C., Carvano, J., Chies-Santos, A., Daflon, S., Dupke, R., Falcón-Barroso, J., Gonçalves, D., Jiménez-Teja, Y., Molino, A., Placco, V. M., Solano, E., Whitten, D., et al. *J-PLUS: The Javalambre Photometric Local Universe Survey*2019, Astronomy & Astrophysics, vol. 622, A176 (ADS link | download pdf)

56. López-Sanjuan, C., Vázquez Ramió, H., Varela, J., Spinoso, D., Angulo, R. E., Muniesa, D., Viironen, K., Cristóbal-Hornillos, D., Cenarro, A. J., Ederoclite, A., Marín-Franch, A., Moles, M., Ascaso, B., Bonoli, S., Chies-Santos, A. L., Coelho, P. R., Costa-Duarte, M. V., Cortesi, A., Díaz-García, L. A., Dupke, R. A., Galbany, L., Hernández-Monteagudo, C., Logroño-García, R., Molino, A., Orsi, A., Placco, V. M., Sampedro, L., San Roman, I., Vilella-Rojo, G., Whitten, D., Mendes de Oliveira, C. L., Sodré Jr., L. J-PLUS: Morphological star/galaxy classification by PDF analysis
2019, Astronomy & Astrophysics, vol. 622, A177 (ADS link | download pdf)

- 55. Whitten, D. D., Placco, V. M., Beers, T. C., Chies-Santos, A. L., Bonatto, C., Varela, J., Cristóbal-Hornillos, D., Ederoclite, A., Akras, S., Caballero, J. A., Coelho, P., Costa-Duarte, M. V., Borges Fernandes, M., Lopes de Oliveira, R., Orsi, A. A., Vázquez Ramió, H., Rossi, S., Cenarro, A. J., Daflon, S., Dupke, R. A., Marín-Franch, A., Mendes de Oliveria, C., Moles, M., Sodré, L. J-PLUS: Identification of Low-Metallicity Stars with Artificial Neural Networks using SPHINX 2019, Astronomy & Astrophysics, vol. 622, A182 (ADS link | download pdf)
- 54. Placco, V. M., Santucci, R. M., Beers, T. C., Chanamé, J., Sepúlveda, M. P., Coronado, J., Rossi, S., Lee, Y. S., Starkenburg, E., Youakim, K., Barrientos, M., Ezzeddine, R., Frebel, A., Hansen, T. T., Holmbeck, E. M., Ji, A. P., Rasmussen, K. C., Roederer, I. U., Sakari, C. M., Whitten, D. D. The R-Process Alliance: Spectroscopic Follow-up of 857 Low-Metallicity Star Candidates from the Best & Brightest Survey
 2019, The Astrophysical Journal, vol. 870, 122 (ADS link | download pdf)
- 53. Sakari, C. M., Placco, V. M., Farrell, E. M., Roederer, I. U., Wallerstein, G., Beers, T. C., Ezzeddine, R., Frebel, A., Hansen, T. T., Holmbeck, E. M., Sneden, C., Cowan, J. J., Venn, K. A., Davis, C. E., Matijevič, G., Wyse, R., Bland-Hawthorn, J., Chiappini, C., Freeman, K. C., Gibson, B. K., Grebel, E. K., Helmi, A., Kordopatis, G., Kunder, A., Navarro, J., Reid, W., Seabroke, G., Steinmetz, M., Watson, F.

 The R-Process Alliance: First Release from Northern Search for R-Process-Enhanced Stars in the Galactic Halo 2018, The Astrophysical Journal, in vol. 868, 110 (ADS link | download pdf)
- 52. Wanying Fu, S., Simon, J. D., Shetrone, M., Bovy, J., Beers, T. C., Fernández-Trincado, J., **Placco, V. M.**, Zamora, O., Allende-Prieto, C., García-Hernández, D. A., Harding, P., Ivans, I. I., Lane, R., Nitschelm, C., Roman-Lopes, A., Sobeck, J.

 The Origin of the 300 km s⁻¹ Stream near Segue 1

 2018, The Astrophysical Journal, vol. 866, 42 (ADS link | download pdf)
- 51. Roederer, I. U., Sakari, C. M., **Placco, V. M.**, Beers, T. C., Ezzeddine, R., Frebel, A., Hansen, T. T. The R-Process Alliance: A Comprehensive Abundance Analysis of HD 222925, a Metal-Poor Star with an Extreme R-Process Enhancement of [Eu/H] = -0.14

 2018, The Astrophysical Journal, vol. 865, 129 (ADS link | download pdf)
- Cain, M., Frebel, A., Gull, M., Ji, A. P., Placco, V. M., Beers, T. C., Meléndez, J., Ezzeddine, R., Casey, A. R., Hansen, T. T., Roederer, I. U., Sakari, C.
 The R-Process Alliance: Chemical Abundances for a Trio of R-Process-Enhanced Stars One Strong, One Moderate, One Mild 2018, The Astrophysical Journal, vol. 864, 43 (ADS link | download pdf)
- 49. Gull, M., Frebel, A., Cain, M., Placco, V. M., Ji, A. P., Abate, C., Ezzeddine, R., Karakas, A. I., Hansen, T. T., Sakari, C., Holmbeck, E. M., Santucci, R. M., Casey, A. R., Beers, T. C. The R-Process Alliance: Discovery of the first metal-poor star with a combined r- and s-process element signature 2018, The Astrophysical Journal, vol. 862, 174 (ADS link | download pdf)
- 48. Yoon, J., Beers, T., Dietz, S., Lee, Y. S., Placco, V. M., Da Costa, G., Keller, S., Owen, C. I., Sharma, M. *Galactic Archeology with the AEGIS Survey: The Evolution of Carbon and Iron in the Galactic Halo* 2018, The Astrophysical Journal, vol. 861, 146 (ADS link | download pdf)

Holmbeck, E. M., Beers, T. C., Roederer, I. U., Placco, V. M., Hansen, T. T., Sakari, C., Sneden, C., Liu, C., Lee, Y. S., Frebel, A.
 The R-Process Alliance: 2MASS J09544277+5246414, The Most Actinide-Enhanced r-II Star Known 2018, The Astrophysical Journal Letters, vol. 859, 24 (ADS link | download pdf)

- 46. Placco, V. M., Beers, T. C., Santucci, R. M., Chanamé, J., Sepúlveda, M. P., Coronado, J., Points, S. D., Kaleida, C. C., Rossi, S., Kordopatis, G., Lee, Y. S., Matijevič, G., Frebel, A., Hansen, T. T., Holmbeck, E. M., Rasmussen, K. C., Roederer, I. U., Sakari, C. M., Whitten, D. D. Spectroscopic Validation of Low-Metallicity Stars from RAVE
 2018, The Astronomical Journal, vol. 155, 256 (ADS link | download pdf)
- Hansen, T. T., Holmbeck, E. M., Beers, T. C., Placco, V. M., Roederer, I. U., Frebel, A., Sakari, C. M., Simon, J. D., Thompson, I. B.
 The R-Process Alliance: First Release from Southern Search for R-Process-Enhanced Stars in the Galactic Halo
 2018, The Astrophysical Journal, vol. 858, 92 (ADS link | download pdf)
- 44. Sakari, C. M., Placco, V. M., Hansen, T. T., Holmbeck, E. M., Beers, T. C., Frebel, A. F., Roederer, I. U., Venn, K. A., Wallerstein, G., Davis, C. E., Farrell, E., Yong, D. The r-process Pattern of a Bright, Highly r-process-enhanced Metal-poor Halo Star at [Fe/H]~ −2 2018, The Astrophysical Journal Letters, vol. 854, 20 (ADS link | download pdf)
- Shappee, B. J., Simon, J. D., Drout, M. R., Piro, A. L., Morrell, N., Prieto, J. L., Kasen, D., Holoien, T. W.-S., Kollmeier, J. A., Kelson, D. D., Coulter, D. A., Foley, R. J., Kilpatrick, C. D., Siebert, M. R., Madore, B. F., Murguia-Berthier, A., Pan, Y.-C., Prochaska, J. X., Ramirez-Ruiz, E., Rest, A., Adams, C., Alatalo, K., Banãdos, E., Baughman, J., Bernstein, R. A., Bitsakis, T., Boutsia, K., Bravo, J. R., Di Mille, F., Higgs, C. R., Ji, A. P., Maravelias, G., Marshall, J. L., Placco, V. M., Prieto, G., Wan, Z.
 Early Spectra of a Gravitational Wave Source GW170817: Evolution of a Neutron Star Merger
 2017, Science, 10.1126/science.aaq0186 (ADS link | download pdf)
- 42. LIGO Scientific Collaboration and Virgo Collaboration, Fermi GBM, INTEGRAL, IceCube Collaboration, ..., TOROS: Transient Robotic Observatory of the South Collaboration (incl. **Placco, V. M.**), ... *Multi-messenger Observations of a Binary Neutron Star Merger*2017, The Astrophysical Journal Letters, vol. 848, 12 (ADS link | download pdf)
- 41. Díaz, M. C., Macri, L. M., Garcia Lambas, D., Mendes de Oliveira, C., Nilo Castellón, J. L., Ribeiro, T., Sánchez, B., Schoenell, W., Abramo, L. R., Akras, S., Alcaniz, J. S., Artola, R., Beroiz, M., Bonoli, S., Cabral, J., Camuccio, R., Castillo, M., Chavushyan, V., Coelho, P., Colazo, C., Costa-Duarte, M. V., Cuevas Larenas, H., DePoy, D. L., Domínguez Romero, M., Dultzin, D., Fernández, D., García, J., Girardini, C., Gonçalves, D. R., Gonçalves, T. S., Gurovich, S., Jiménez-Teja, Y., Kanaan, A., Lares, M., Lopes de Oliveira, R., López-Cruz, O., Marshall, J. L., Melia, R., Molino, A., Padilla, N., Peñuela, T., Placco, V. M., Quiñones, C., Ramírez Rivera, A., Renzi, V., Riguccini, L., Ríos-López, E., Rodriguez, H., Sampedro, L., Schneiter, M., Sodré, L., Starck, M., Torres-Flores, S., Tornatore, M., Zadrozny, A. Observations of the first electromagnetic counterpart to a gravitational wave source by the TOROS collaboration 2017, The Astrophysical Journal Letters, vol. 848, 29 (ADS link | download pdf)
- Reggiani, H., Meléndez, J., Kobayashi, C., Karakas, A., Ramírez, I., Placco, V. M.
 Constraining cosmic scatter in the Galactic Halo through a differential analysis of Metal Poor Stars
 2017, Astronomy & Astrophysics, vol. 608, 46 (ADS link | download pdf)
- 39. Kielty, C. L., Venn, K. A., Loewen, N. B., Shetrone, M., Placco, V. M., Jahandar, F., Mészáros, Sz., Martell, S. Carbon-enhanced metal-poor stars in the SDSS-APOGEE database

 2017, Monthly Notices of the Royal Astronomical Society, vol. 471, 404 (ADS link | download pdf)
- 38. Fernández-Trincado, J. G., Zamora, O., Garcia-Hernandez, D. A., Souto, D., Dell'Agli, F., Schiavon, R. P., Geisler, D., Tang, B., Villanova, S., Hasselquist, S., Mennickent, R. E., Cunha, K., Shetrone, M., Allende-Prieto, C., Vieira, K., Zasowski, G., Sobeck, J., Hayes, C. R., Majewski, S. R., Placco, V. M., Beers, T. C., Schleicher,

- D. R. G., Robin, A. C., Meszaros, Sz., Masseron, T., Garcia-Perez, A. E., Anders, F., Meza, A., Alves-Brito, A., Carrera, R., Minniti, D., Lane, R. R., Fernandez-Alvar, E., Moreno, E., Pichardo, B., Perez-Villegas, A., Schultheis, M., Roman-Lopes, A., Fuentes, C. E., Nitschelm, C., Harding, P., Bizyaev, D., Pan, K., Oravetz, D., Simmons, A., Ivans, I. I., Blanco-Cuaresma, S., Hernandez, J., Alonso-Garcia, J., Valenzuela, O., Chaname, J. *Atypical Mg-poor Milky Way field stars with globular cluster second-generation like chemical patterns*2017, The Astrophysical Journal Letters, vol. 846, 2 (ADS link | download pdf)
- Hasselquist, S., Shetrone, M., Smith, V. V., Holtzman, J., McWilliam, A., Fernández-Trincado, J. G., Beers, T. C., Majewski, S. R., Nidever, D. L., Tang, B., Tissera, P. B., Fernández-Alvar, E. F., Allende-Prieto, C., Battaglia, G., Carigi, L., Cunha, K., Delgado Inglada, G., Frinchaboy, P., García-Hernández, D. A., Geisler, D., Minniti, D., Placco, V. M., Schultheis, M., Sobeck, J., Villanova, S. APOGEE Chemical Abundances of the Sagittarius Dwarf Galaxy
 2017, The Astrophysical Journal, vol. 845, 162 (ADS link | download pdf)
- 36. Placco, V. M., Holmbeck, E. M., Frebel, A., Beers, T. C., Surman, R. A., Ji, A. P., Ezzedine, R., Points, S. D., Kaleida, C. C., Hansen, T. T., Sakari, C. M., Casey, A. R. RAVE J203843.2—002333: The First Highly R-process-enhanced Star Identified in the RAVE Survey. 2017, The Astrophysical Journal, vol. 844, 18 (ADS link | download pdf)
- 35. Lee, Y. S., Beers, T. C., Kim, Y. K., Placco, V. M., Yoon, J., Carollo, D., Masseron, T., Jung, J. Chemical Cartography. I. A Carbonicity Map of the Galactic Halo
 2017, The Astrophysical Journal, vol. 836, 91 (ADS link | download pdf)
- Beers, T. C., Placco, V. M., Carollo, D., Rossi, S., Lee, Y. S., Frebel, A., Norris, J. E., Dietz, S., Masseron, T. Bright Metal-Poor Stars from the Hamburg/ESO Survey. II. A Chemodynamical Analysis
 2017, The Astrophysical Journal, vol. 835, 81 (ADS link | download pdf)
- van Weeren, R. J., Andrade-Santos, F., Dawson, W. A., Golovich, N., Lal, D. V., Kang, H., Ryu, D., Brüggen, M., Ogrean, G. A., Forman, W. R., Jones, C., Placco, V. M., Santucci, R. M., Wittman, D., Jee, M. J., Kraft, R. P., Sobral, D., Stroe, A., Fogarty, K.
 The Case for Electron Re-Acceleration at Galaxy Cluster Shocks
 2017, Nature Astronomy, vol. 1, 5 (Nature Astronomy link | Issue cover | download pdf)
- 32. Carollo, D., Beers, T., Placco, V. M., Santucci, R. M., Denissenkov, P., Tissera, P. B., Lentner, G., Rossi, S., Lee, Y. S., Tumlinson, J.

 The age structure of the Milky Way's halo

 2016, Nature Physics, vol. 12, 1170 (Nature Physics link | Issue cover | download pdf)
- Hasselquist, S., Shetrone, M., Cunha, K., Smith, V. V., Holtzman, J., Lawler, J. E., Beers, T. C., Chojnowski, D., Fernández-Trincado, J., García-Hernández, D., Hearty, F., Majewski, S., Pereira, C., Placco, V. M., Villanova, S., Zamora, O. Identification of Neodymium in the APOGEE H-band Spectra
 2016, The Astrophysical Journal, vol. 833, 81 (ADS link | download pdf)
- 30. Placco, V. M., Frebel, A., Beers, T. C., Yoon, J., Chiti, A., Heger, A. Chan, C., Casey, A. R., Christlieb, N. Observational Constraints on First-Star Nucleosynthesis. II. Spectroscopy of an Ultra Metal-Poor CEMP-no Star 2016, The Astrophysical Journal, vol. 833, 21 (ADS link | download pdf)
- Yoon, J., Beers, T., Placco, V. M., Rasmussen, K., Carollo, D., He, S., Hansen, T., Roederer, I. U., Zeanah, J. Observational Constraints on First-Star Nucleosynthesis. I. Evidence for Multiple Progenitors of CEMP-no Stars 2016, The Astrophysical Journal, vol. 833, 20 (ADS link | download pdf)
- Placco, V. M., Beers, T. C., Reggiani, H., Meléndez, J.
 G64–12 and G64–37 are Carbon-Enhanced Metal-Poor Stars
 2016, The Astrophysical Journal Letters, vol. 829, 24 (ADS link | download pdf)

- Roederer, I. U., Placco, V. M., Beers, T. C.
 Detection of Phosphorus, Sulphur, and Zinc in the Carbon-Enhanced Metal-Poor Star BD+44° 493
 2016, The Astrophysical Journal Letters, vol. 824, 19 (ADS link | download pdf)
- Hansen, C. J., Nordström, B., Hansen, T., Kennedy, C. R., Placco, V. M., Beers, T. C., Andersen, J., Cescutti, G., Chiappini, C.
 Abundances of carbon-enhanced metal-poor stars as constraints on their formation
 2016, Astronomy & Astrophysics, vol. 588, A37 (ADS link | download pdf)
- Hansen, T., Andersen, J., Nordström, B., Beers, T., Placco, V. M., Yoon, J., Buchhave, L.
 The role of binaries in the enrichment of the early Galactic halo.III. Carbon-Enhanced Metal-Poor Stars CEMP-s 2016, Astronomy & Astrophysics, vol. 588, A3 (ADS link | download pdf)
- 24. Hansen, T., Andersen, J., Nordström, B., Beers, T., Placco, V. M., Yoon, J., Buchhave, L. The role of binaries in the enrichment of the early Galactic halo.II. Carbon-Enhanced Metal-Poor Stars CEMP-no 2016, Astronomy & Astrophysics, vol. 586, A160 (ADS link | download pdf)
- Meléndez, J., Placco, V. M., Tucci-Maia, M., Ramírez, I., Li, T. S., Perez, G.,
 2MASS J1808-5104: The Brightest (V=11.9) Ultra Metal-Poor Star
 2016, Astronomy & Astrophysics Letter to the Editor, vol. 585, L5 (ADS link | download pdf)
- Hollek, J., Frebel, A., Placco, V. M., Karakas, A., Shetrone, M., Sneden, C., Christlieb, N.
 The Chemical Abundances of Stars in the Halo (CASH) Project. III. A New Classification Scheme for Carbon-Enhanced Metal-poor Stars with S-process Element Enhancement 2015, The Astrophysical Journal, vol. 812, 121 (ADS link | download pdf)
- 21. An, D., Beers, T. C., Santucci, R. M., Carollo, D., Placco, V. M., Lee, Y. S., Rossi, S. *The Fractions of Inner- and Outer-Halo Stars in the Local Volume as Revealed by SDSS Photometry of Stripe 82* 2015, The Astrophysical Journal Letters, vol. 813, 28 (ADS link | download pdf)
- Santucci, R. M., Beers, T. C., Placco, V. M., Carollo, D., Rossi, S., Lee, Y. S., Denissenkov, P., Tumlinson, J., Tissera, P. B.
 Chronography of the Milky Way's Halo System with Field Blue Horizontal-Branch Stars
 2015, The Astrophysical Journal Letters, vol. 813, 16 (ADS link | download pdf)
- 19. Placco, V. M., Beers, T. C., Ivans, I. I., Filler, D., Imig, J. A., Roederer, I., Abate, C., Hansen, T., Cowan, J., Frebel, A., Lawler, J. E., Schatz, H., Sneden, C., Sobeck, J., Aoki, W., Smith, V. V., Bolte, M. Hubble Space Telescope Near-Ultraviolet Spectroscopy of the Bright CEMP-s Stars 2015, The Astrophysical Journal, vol. 812, 109 (ADS link | download pdf)
- 18. Frebel, A., Chiti, A., Ji, A. P., Jacobson, H. R., **Placco, V. M.**SD 1313-0019 Another second-generation star with [Fe/H] = -5.0, observed with the Magellan Telescope

 2015, **The Astrophysical Journal Letters**, vol. 810, 27 (ADS link | download pdf)
- 17. Placco, V. M., Frebel, A., Lee, Y. S., Jacobson, H. R., Beers, T. C., Pena, J. M., Chan, C., Heger, A. Metal-poor Stars Observed with the Magellan Telescope. III. New Extremely and Ultra Metal-Poor Stars from SDSS/SEGUE and Insights on the Formation of Ultra Metal-Poor Stars 2015, The Astrophysical Journal, vol. 809, 136 (ADS link | download pdf)
- Hansen, T., Hansen, C. J., Christlieb, N., Beers, T. C., Yong, D., Bessell, M. S., Frebel, A., García Pérez, A. E., Placco, V. M., Norris, J. E., Asplund, M. An Elemental Assay of Very, Extremely, and Ultra Metal-Poor Stars
 2015, The Astrophysical Journal, vol. 807, 173 (ADS link | download pdf)
- 15. Santucci, R. M., Placco, V. M., Rossi, S., Beers, T. C., Reggiani, H. M., Lee, Y. S., Xue, X. X., Carollo, D. *The Frequency of Field Blue-Straggler Stars in the Thick Disk and Halo System of the Galaxy* **2015**, **The Astrophysical Journal**, vol. 801, 116 (ADS link | download pdf)

- 14. Placco, V. M., Beers, T. C., Frebel, A., Stancliffe R. Carbon-Enhanced Metal-Poor Star Frequencies in the Galaxy: Corrections for the Effect of Evolutionary Status on Carbon Abundances 2014, The Astrophysical Journal, vol. 797, 21 (ADS link | download pdf)
- Beers, T. C., Norris, J. E., Placco, V. M., Lee Y. S., Rossi S., Carollo, D., Masseron, T.
 Population Studies. XIII. A New Analysis of the Bidelman-MacConnell "Weak-metal" Stars Confirmation of Metal-poor Stars in the Thick Disk of the Galaxy 2014, The Astrophysical Journal, vol. 794, 58 (ADS link | download pdf)
- 12. Placco, V. M., Beers, T. C., Roederer, I., Cowan, J., Frebel, A., Filler, D., Ivans, I. I., Lawler, J. E., Schatz, H., Sneden, C., Sobeck, J., Aoki, W., Smith, V. V. Hubble Space Telescope Near-Ultraviolet Spectroscopy of the Bright CEMP-no Star BD+44°493
 2014, The Astrophysical Journal, vol. 790, 34 (ADS link | download pdf)
- Carollo, D., Freeman, K., Beers, T. C., Placco, V. M., Tumlinson, J., Martell, S. L.
 Carbon-enhanced Metal-poor Stars: CEMP-s and CEMP-no Subclasses in the Halo System of the Milky Way 2014, The Astrophysical Journal, vol. 788, 180 (ADS link | download pdf)
- Hansen, T., Hansen, C. J., Christlieb, N., Yong, D., Bessell, M., García Pérez, A., Beers, T. C., Placco, V. M., Frebel, A., Norris, J. E., Asplund, M.
 Exploring the Origin of Lithium, Carbon, Strontium, and Barium with Four New Ultra Metal-poor Stars
 2014, The Astrophysical Journal, vol. 787, 162 (ADS link | download pdf)
- Kennedy, C. R., Stancliffe, R. J., Kuehn, C., Beers, T. C., Kinman, T. D., Placco, V. M., Reggiani, H., Rossi, S., Lee, Y. S.
 Seven New Carbon-enhanced Metal-poor RR Lyrae Stars
 2014, The Astrophysical Journal, vol. 787, 6 (ADS link | download pdf)
- 8. Placco, V. M., Frebel, A., Beers, T. C., Christlieb, N., Lee, Y. S., Kennedy, C. R., Rossi, S., Santucci, R. Metal-poor Stars Observed with the Magellan Telescope. II. Discovery of Four Stars with [Fe/H]≤ −3.5 2014, The Astrophysical Journal, vol. 781, 40 (ADS link | download pdf)
- Lee Y. S., Beers T. C., Masseron T., Plez B., Rockosi, C., Sobeck, J., Yanny, B., Lucatello, S., Sivarani, T., Placco, V. M., Carollo D.
 Carbon-enhanced Metal-poor Stars in SDSS/SEGUE. I. Carbon Abundance Estimation and CEMP Star Frequency 2013, The Astronomical Journal, vol. 146, 132 (ADS link | download pdf)
- 6. Placco, V. M., Frebel A., Beers T. C., Karakas A., Kennedy C. R., Rossi S., Christlieb N., Stancliffe R. Metal-Poor Stars Observed with the Magellan Telescope I. Constraints on Progenitor Mass and Metallicity of AGB Stars Undergoing s-Process Nucleosynthesis
 2013, The Astrophysical Journal, vol. 770, 104 (ADS link | download pdf)
- Placco, V. M., Kennedy C.R., Beers T.C., Christlieb N., Rossi S., Sivarani T., Lee Y.S., Reimers D., Wisotzki L. Searches for Metal-Poor Stars from the Hamburg/ESO Survey using the CH G-band
 The Astronomical Journal, vol. 142, 188 (ADS link | download pdf)
- Kennedy, C.R., Sivarani, T., Beers, T.C., Lee, Y.S., Placco, V. M., Rossi, S., Christlieb, N., Herwig, F., Plez, B. [O/Fe] Estimates for Carbon-enhanced Metal-poor Stars from Near-infrared Spectroscopy
 The Astronomical Journal, vol. 141, 102 (ADS link | download pdf)
- Placco, V. M., Kennedy C.R., Rossi S., Beers T.C., Lee Y.S., Christlieb N., Sivarani T., Reimers D., Wisotzki L. A Search for Unrecognized Carbon-Enhanced Metal-Poor Stars in the Galaxy
 The Astronomical Journal, vol. 139, 1051 (ADS link | download pdf)
- Marsteller, B., Beers, T. C., Sivarani, T., Rossi, S, Placco, V. M., Knapp, G. R., Johnson, J. A., Lucatello, S. Automated Determination of [Fe/H] and [C/Fe] from Low-Resolution Spectroscopy
 The Astronomical Journal, vol. 138, 533 (ADS link | download pdf)

Lichtenthäler, R., Lépine-Szily, A., Guimarães, V., Perego, C., Placco, V. M., Camargo, O., Jr., Denke, R., de Faria, P. N., Benjamim, E. A., Added, N., Lima, G. F., Hussein, M. S., Kolata, J., Arazi, A. Radioactive Ion beams in Brazil (RIBRAS)
 2005, The European Physical Journal A - Supplement, vol. 25, 733 (ADS link | download pdf)

Proceedings, non-refereed publications and abstracts

- Merino, B., Placco, V. M., Stanghellini, L.
 The US NGO GMOS Data Reduction Cookbook: Version 2.0
 2022, NSF's NOIRLab The Mirror, issue #3 (zenodo | The Mirror | ADS)
- 47. Hernández-Fuertes, J., Ramió, H., Ederoclite, A., Infante-Sainz, R., Siffert, B., Espinosa, L., Placco, V. M., Álvarez-Candal, A., Maícas, N., López-Martínez, F., Varela, J., López-Sanjuan, C., Marín-Franch, A., Cenarro, A. *JVAR Transient Discovery Report for 2021-12-14*, **Transient Name Server Discovery Report, 2021** (ADS link)
- 46. Placco, V. M., Sneden, C., Roederer, I. U., Lawler, J. E., Den Hartog, E. A., Hejazi, N., Maas, Z., Bernath, P. linemake: an Atomic and Molecular Line List Generator
 2021, Research Notes of the American Astronomical Society, vol. 5, 92 (ADS link | download pdf)
- 45. Khan, H., Sakari, C., Placco, V. M., Neutron Capture Abundances in the CEMP Star BD+42 2173: A Signature of the Intermediate (i-) Process?, American Astronomical Society, AAS Meeting #237, 2021 (ADS link)
- 44. Shank, D., Beers, T. C., Yoon, J., Placco, V. M., Dynamically Tagged Groups of Carbon-Enhanced Metal-Poor Stars from the AEGIS Survey, American Astronomical Society, AAS Meeting #237, 2021 (ADS link)
- 43. Komater, D., Shank, D., Beers, T. C., Yoon, J., Placco, V. M., Dynamically Tagged Groups of Metal-Poor Stars from the AEGIS Survey, American Astronomical Society, AAS Meeting #237, 2021 (ADS link)
- 42. Zepeda, J., Rasmussen, K., Beers, T. C., Placco, V. M., High-Resolution Spectroscopic Abundances for over 200 Metal-Poor Stars, American Astronomical Society, AAS Meeting #237, 2021 (ADS link)
- 41. Hernández-Fuertes, J., Ramió, H. V., Varela, J., Ederoclite, A., Siffert, B. B., Espinosa, L., Placco, V. M., Álvarez-Candal, A., Maícas, N., López-Sanjuan, C., Marín-Franch, A., Cenarro, A. J. Transient Discovery Report for 2020-12-22, Transient Name Server Discovery Report, 2020 (ADS link)
- 40. Jeong, M., Lee, Y. S., Beers, T. C., Placco, V. M., Chemodynamical Properties of Extremely Metal-Poor Stars, American Astronomical Society, AAS Meeting #235, 2020
- 39. Yoon, J., Beers, T. C., Tian, D., Placco, V. M., Lee, Y. S., Origin and evolution of the CEMP-no stars in the Galaxy and its satellite dwarf galaxies, American Astronomical Society, AAS Meeting #235, 2020
- 38. The MSE Science Team (incl. **Placco, V. M.**), The Detailed Science Case for the Maunakea Spectroscopic Explorer, 2019 (ADS Abstract | arXiv e-print)
- 37. Vázquez Ramió, H., Cristóbal-Hornillos, D., Ederoclite, A., Whitten, D. D., Placco, V. M., J-PLUS Team *Identification of RR Lyrae stars in the Javalambre Photometric Local Universe Survey*, Proceedings of the XIII Scientific Meeting of the Spanish Astronomical Society, 2019 (ADS link)
- 36. Yoon, J., Whitten, D. D., Beers, T. C., Placco, V. M., Lee, Y. S., Dietz, S., Gudin, D., Rasmussen, K., Lifting the Veil on Ultra Metal-Poor Stars in the Outermost Halo, Rediscovering our Galaxy, Proceedings of the International Astronomical Union, 2018, vol. 334 (ADS link)
- 35. Whitten, D. D., Placco, V. M., Beers, T. C., Clark, S., Ederoclite, A., Mendes de Oliveira, C., *Probing Galactic Chemical Evolution with J-PLUS Photometry*, Rediscovering our Galaxy, Proceedings of the International Astronomical Union, 2018, vol. 334 (ADS link)
- 34. Rasmussen, K., Beers, T. C., Placco, V. M., Yoon, J., Dietz, S., *Measurement of [Fe/H] and [C/Fe] for Metal-Poor Stars from the RAVE Survey*, Rediscovering our Galaxy, Proceedings of the International Astronomical Union, 2018, vol. 334 (ADS link)

33. Dietz, S., Beers, T. C., Placco, V. M., Yoon, J., AEGIS Collaboration, *Kinematic and Chemical Analysis of AEGIS Survey Stars*, Rediscovering our Galaxy, Proceedings of the International Astronomical Union, 2018, vol. 334 (ADS link)

- 32. Beers, T. C., Holmbeck, E. M., Placco, V. M., Hansen, T. T., Simon, J. D., Thompson, I., Frebel, A., Sakari, C. M., New Highly r-Process-Enhanced Halo Stars, Rediscovering our Galaxy, Proceedings of the International Astronomical Union, 2018, vol. 334 (ADS link)
- 31. Placco, V. M. Identification Of (Bright) Carbon-Enhanced Metal-Poor Stars With J-Plus Photometry, Early Data Release and Scientific Exploitation of the J-PLUS Survey, 2017 (ADS link)
- 30. Holmbeck, E. M., Placco, V. M., Beers, T. C., Frebel, A., Sakari, C., Surman, R. RAVE J2038-0023: The First Bright r-Process Enhanced Star Identified in the RAVE Survey, Proceedings of the 14th Symposium on Nuclei in the Cosmos, 2017 (ADS link)
- van Weeren, R. J., Andrade-Santos, F., Dawson, W. A., Golovich, N., Lal, D. V., Kang, H., Ryu, D., Brüggen, M., Ogrean, G. A., Forman, W. R., Jones, C., Placco, V. M., Santucci, R. M., Wittman, D., Jee, M. J., Kraft, R. P., Sobral, D., Stroe, A., Fogarty, K. Discovery of Electron Re-Acceleration at Galaxy Cluster Shocks, American Astronomical Society, AAS Meeting #229, 2017
- 28. Yoon, J., Beers, T. C., Dietz, S., Lee, Y. S., Placco, V. M. Kinematics and chemistry of faint high latitude dwarf carbon stars, American Astronomical Society, AAS Meeting #229, 2017
- 27. Beers, T., Placco, V. M., Holmbeck, E., Hansen, T., Simon, J. Searching for New Highly r-Process-Enhanced Stars in the Halo of the Milky Way, American Astronomical Society, AAS Meeting #229, 2017
- Dietz, S. E., Beers, T. C., Carollo, D., Yoon, J., Placco, V. M. Identifying CEMP-s and CEMP-no Stars within Milky Way Halo Structures, American Astronomical Society, AAS Meeting #229, 2017
- 25. Lentner, G., Beers, T. C., Placco, V. M., Carollo, D., Whitten, D., Denissenkov, P., Santucci, R., Rossi, S. Structures in the Milky Way's Halo System using the Age Distribution of Field Horizontal-Branch Stars, American Astronomical Society, AAS Meeting #229, 2017
- 24. Rasmussen, K., Beers, T. C., Placco, V. M., Yoon, J. *The First Mass Function and Rise of Carbon in the Early Universe*, American Astronomical Society, AAS Meeting #229, 2017
- Hasselquist, S., Shetrone, M. D., Smith, V. V., Cunha, K., McWilliam, A., Holtzman, J. A., Majewski, S. R., Sobeck, J., Frinchaboy, P. M., Roman-Lopes, A., Ivans, I. I., Allende-Prieto, C., Placco, V. M., Lane, R., Zasowski, G. APOGEE Chemical Abundances of the Sagittarius Dwarf Galaxy, American Astronomical Society, AAS Meeting #229, 2017
- 22. Gimeno, G., Roth, K., Chiboucas, K., Hibon, P., Boucher, L., White, J., Rippa, M., Labrie, K., Turner, J., Hanna, K., Lazo, M., Pérez, G., Rogers, R., Rojas, R., Placco, V. M., Murowinski, R. *On-sky commissioning of Hamamatsu CCDs in GMOS-S*, Proceedings of the SPIE, 2016, vol. 9908, id. 99082S 14 pp. (SPIE Library)
- Placco, V. M., Beers, T. C., Identifying Bright Carbon-Enhanced Metal-Poor Stars in the RAVE Catalog, American Astronomical Society, AAS Meeting #227, 2016
- 20. Kennedy, C. R., Placco, V. M., Beers, T. C., *High-resolution analysis of carbon-enhanced metal-poor stars with Magellan*, American Astronomical Society, AAS Meeting #227, 2016
- 19. Yoon, J., He, S., Placco, V. M., Carollo, D., Beers, T. C., Carbon Abundance Plateaus among Carbon-Enhanced Metal-Poor Stars, American Astronomical Society, AAS Meeting #227, 2016
- 18. Beers, T. C., Placco, V. M., Carollo, D., Santucci, R. M., Rossi, S., Lee, Y. S., Denissenkov, P., Tumlinson, J., Tissera, P., Lentner, G., *Chronography of the Milky Way's Halo System with Field Blue Horizontal-Branch Stars*, American Astronomical Society, AAS Meeting #227, 2016

17. Roth, K., Gimeno, G., Chiboucas, K., Hibon, P., Gomez, P. L., Placco, V. M., Commissioning new Hamamatsu CCDs for GMOS-S, American Astronomical Society, AAS Meeting #225, 2015

- Beers, T. C., Carollo, D., Keller, S., Casey, A., Lee, Y. S., Placco, V. M.; Skymapper Team, Aegis Collaboration, Kinematics of the AEGIS Spectroscopic Sample of Milky Way Halo- and Disk-System Stars from SkyMapper, American Astronomical Society, AAS Meeting #225, 2015
- 15. Lopes de Oliveira, R., Placco, V. M., Unveiling optical and X-ray properties of the high mass X-ray binary XMMU J054134.7-682550, Revista Mexicana de Astronomía y Astrofísica (Serie de Conferencias), 2014, vol. 44, pp. 158-158 (ADS link)
- 14. Lopes de Oliveira, R., Placco, V. M., Eighteen years of the life of the Be/X-ray binary XMMUJ054134.7-682550, The X-ray Universe, 2014
- 13. Chene, A. N., Padzer, J., Barrick, G., Anthony, A., Benedict, T., Duncan, D., Gigoux, P., Kleinman, S., Malo, L., Martioli, E., Moutou, C., Placco, V. M.; Reshetovand, V., Rhee, J., Roth, K., Schiavon, R., Tollestrup, E. V., Vermeulen, T. A., White, J., Wooff, R., *GRACES: Gemini remote access to CFHT ESPaDOnS spectrograph through the longest astronomical fiber ever made: experimental phase completed*, Proceedings of the SPIE, 2014, vol. 9151, id. 915147 16 pp. (arXiv e-print)
- 12. Beers, T. C., Lee, Y. S., Placco, V. M.; Carollo, D., Christlieb, N., Fiorenza, S., Determination of Physical Parameter Estimates for Metal-Poor Stars from the HK and HES Surveys, American Astronomical Society, AAS Meeting #222, 2013
- 11. Beers, T. C., Placco, V. M.; Rossi, S., Christlieb, N., Kennedy, C., A New Survey for Carbon-Enhanced Metal-Poor Stars in the Halo(es) of the Galaxy, American Astronomical Society, AAS Meeting #221, 2013
- 10. Placco, V. M.; Beers, T. C., Rossi, S., Kennedy, C., Christlieb, N., Lee, Y. S., Making Good Use of Bad Weather: Finding Extremely Metal-Poor Stars in the Clouds, Astronomical Society of the Pacific, Conference Proceedings, 2012, vol. 458 p.77 (ADS link)
- 9. Placco, V. M.; Rossi, S., Beers, T. C., Lucatello, S., Abundance Patterns Among Very Metal-Poor Stars in the Halo of the Galaxy: A Statistical Approach, Proceedings of the International Astronomical Union, 2010, vol. 262, p. 412-413 (ADS link)
- 8. Placco, V. M.; Kennedy, C. R.; Rossi, S., Beers, T. C., Christlieb, N., Sivarani, T., A Search for Unrecognized Carbon-Enhanced Metal-Poor Stars, Proceedings of the International Astronomical Union, 2010, vol. 265, p. 132-133 (ADS link)
- 7. Kennedy, C. R., Sivarani, T., Beers, T. C., Rossi, S., Placco, V. M., Johnson, J., Masseron, T., *Near-IR Spectroscopy of CEMP Stars with SOAR/OSIRIS*, Proceedings of the International Astronomical Union, 2010, vol. 265, p. 126-127 (ADS link)
- 6. Kennedy, C., Beers, T. C., Nordstrom, B., Placco, V. M.; Rossi, S., Sivarani, T., CNO Abundances in Metal-Poor Stars, Proceedings of the 11th Symposium on Nuclei in the Cosmos, 2010 (ADS link)
- 5. Kennedy, C. R., Sivarani, T., Beers, T. C., Rossi, S., Placco, V. M., Johnson, J., Masseron, T., *Near-IR Spectroscopy of CEMP Stars with OSIRIS*, American Astronomical Society, AAS Meeting #213, 2009
- 4. Rossi, S., Placco, V. M.; Beers, T. C., Marsteller, B., Kennedy, C. R., Sivarani, T., Masseron, T., Plez, B., Refined Estimates of Carbon Abundances for Carbon-Enhanced Metal-Poor Stars, First Stars III Conference. AIP Conference Proceedings, 2008, vol. 990, pp. 154-156 (ADS link)
- 3. Rossi, S., Placco, V. M.; Beers, T. C., Kennedy, C. R., Marsteller, B., Refined Estimates of [Fe/H] and [C/Fe] in Metal-Poor Stars, Proceedings of the 10th Symposium on Nuclei in the Cosmos, 2008 (ADS link)
- 2. Kennedy, C. R., Sivarani, T., Beers, T. C., Lee, Y. S., Rossi, S., Placco, V. M., Near-IR Observations Of CEMP Stars With OSIRIS, American Astronomical Society, AAS Meeting #211, 2007

1. Lichtenthäler, R., Lépine-Szily, A., Guimarães, V., Perego, C., Placco, V. M., Camargo, O., Denke, R., de Faria, P., Benjamim, E., Kuramoto, R., Added, N., Lima, G., Hussein, M., Kolata, J., Arazi, A., *Radioactive Ion Beams in Brazil (RIBRAS)*, Exotic Nuclei 2004. Proceedings of the International Symposium, 2005. (ADS link)

Telescope time allocations

Approved observing projects: 166 Total awarded: 6477.32 hours

Principal Investigator

Approved observing projects: 48 Total awarded: 1725.55 hours

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48. 2022A - Gemini South - GS-2022A-Q-406 (Band 4): 30.0 hours
47. 2022A - CTIO Blanco - 2022A-210002: 5.0 nights
46. 2021A - Gemini South - GS-2021A-Q-419 (Band 4): 40.0 hours
45. 2021A - CTIO Blanco - 2021A-0000: 5.0 nights
44. 2020A - CTIO Blanco - 2020A-0032: 5.0 nights
43. 2019B - CTIO Blanco - 2019B-0069: 5.0 nights
42. 2019A - Gemini South - GS-2019A-Q-408 (Band 4): 21.0 hours
41. 2019A - Gemini North - GN-2019A-Q-402 (Band 4): 27.0 hours
40. 2018B - Gemini North - GN-2018B-Q-403 (Band 4): 20.0 hours
39. 2018B - Gemini South - GS-2018B-Q-402 (Band 4): 20.0 hours
38. 2018A - Gemini South - GS-2018A-Q-402 (Band 4): 30.0 hours
37. 2017B - Gemini North - GN-2017B-Q-84 (Band 4): 39.0 hours
36. 2017A - Gemini South - GS-2017A-FT-3: 5.5 hours
35. 2017A - KPNO Mayall - 2017A-0295: 7.0 nights
34. 2016B - Gemini North - GN-2016B-Q-85 (Band 4): 50.0 hours
33. 2016B - Gemini South - GS-2016B-Q-86 (Band 4): 50.0 hours
32. 2016A - Gemini South - GS-2016A-Q-107 (Band 4): 50.0 hours
31. 2015B - Gemini North - GN-2015B-Q-100 (Band 4): 30.0 hours
30. 2015B - Gemini South - GS-2015B-Q-104 (Band 4): 50.0 hours
29. 2015B - ESO/NTT - 096.D-0018(A): 5.0 nights
28. 2015A - Gemini North - GN-2015A-Q-401 (Band 4): 30.0 hours
27. 2015A - Gemini South - GS-2015A-Q-205 (Band 4): 50.0 hours
26. 2015A - ESO/NTT - 095.D-0202(A): 4.0 nights
25. 2015A - KPNO Mayall - 2015A-0071: 6.0 nights
24. 2015A - SOAR - 2015A-0071: 5.0 nights
23. 2014B - Gemini South - GS-2014B-Q-85 (Band 4): 30.0 hours
22. 2014B - Gemini North - GN-2014B-Q-102 (Band 4): 30.0 hours
21. 2014A - Gemini South - GS-2014A-Q-92 (Band 4): 33.3 hours
20. 2014A - Gemini North - GN-2014A-Q-101 (Band 3): 16.7 hours
19. 2014A - Gemini North - GN-2014A-Q-105 (Band 4): 33.3 hours
18. 2013B - Gemini South - GS-2013B-Q-89 (Band 4): 25.0 hours
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17. 2013B - Gemini North - GN-2013B-Q-105 (Band 4): 25.0 hours

16. 2013B - SOAR - SO2013B-001: 30.0 hours

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15. 2013A - SOAR - SO2013A-018: 34.0 hours
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- 14. 2012B Gemini South GS-2012B-Q-65 (Band 3): 10.0 hours queue
- 13. 2012B Gemini South GS-2012B-Q-84 (Band 4): 70.0 hours queue
- 12. 2012B Gemini North GN-2012B-Q-284 (Band 4): 70.0 hours queue
- 11. 2012B ESO/NTT 090.D-0275(A): 4 nights classical
- 10. 2012B SOAR SO2012B-001: 24.0 hours remote
- 9. 2012A Gemini South GS-2012A-Q-76 (Band 3): 6.0 hours queue
- 8. 2012A ESO/NTT 089.D-0331(A): 4 nights classical
- 7. 2012A SOAR SO2012A-003: 24.0 hours remote
- 6. 2011B ESO/NTT 088.D-0344(A): 4 nights classical
- 5. 2011B SOAR SO2011B-002: 24.0 hours remote
- 4. 2011A Gemini South GS-2011A-Q-86 (Band 4): 4.0 hours queue
- 3. 2011A Gemini North GN-2011A-Q-88 (Band 3): 1.3 hours queue
- 2. 2011A Gemini North GN-2011A-Q-122 (Band 4): 6.7 hours queue
- 1. 2011A SOAR SO2011A-010: 17.0 hours remote

Co-Investigator

Approved observing projects: 118 Total awarded: 4751.77 hours

- 118. 2022B Gemini South GS-2022B-Q-227 (Band 2): 7.10 hours
- 117. 2022B Gemini South GS-2022B-Q-318 (Band 3): 10.96 hours
- 116. 2022A SOAR 2022A-001: 8 hours
- 115. 2022A SOAR 2022A-006: 40 hours
- 114. 2022A Subaru KR-2022A-008: 10.00 hours
- 113. 2022A Gemini South GS-2022A-Q-128 (Band 1): 1.20 hours
- 112. 2022A Gemini South GS-2022A-Q-132 (Band 1): 4.60 hours
- 111. 2022A Gemini South GS-2022A-Q-234 (Band 2): 3.10 hours
- 110. 2022A Gemini South GS-2022A-Q-233 (Band 2): 11.60 hours
- 109. 2022A Gemini South GS-2022A-Q-238 (Band 2): 4.00 hours
- 108. 2022A Gemini South GS-2022A-Q-322 (Band 3): 5.20 hours
- 107. 2022A Gemini South GS-2022A-Q-323 (Band 3): 2.20 hours
- 106. 2022A Gemini South GS-2022A-Q-325 (Band 3): 9.40 hours
- 105. 2021B Gemini North GN-2021B-Q-111 (Band 1): 9.70 hours
- 104. 2021B Gemini South GS-2021B-Q-127 (Band 1): 2.20 hours
- 103. 2021B Gemini South GS-2021B-Q-232 (Band 2): 6.10 hours
- 102. 2021B Gemini South GS-2021B-Q-130 (Band 1): 3.60 hours
- 101. 2021B Gemini South GS-2021B-Q-321 (Band 3): 16.60 hours
- 100. 2021A Gemini North GN-2021A-FT-209 (Band 1): 2.20 hours
- 99. 2021A Gemini North GN-2021A-FT-205 (Band 1): 3.00 hours
- 98. 2021A Gemini North GN-2021A-Q-111 (Band 1): 14.20 hours

- 97. 2021A Gemini South GS-2021A-Q-230 (Band 2): 10.00 hours
- 96. 2021A SOAR 2021A-007: 40 hours
- 95. 2020A McDonald 2.7m McD20-1-2.7-7: 7.0 nights
- 94. 2019B Gemini North GN-2019B-Q-403 (Band 4): 9.40 hours
- 93. 2019B McDonald 2.7m McD19-3-2.7-1: 7.0 nights
- 92. 2019B SOAR 2019B-0013: 26 hours
- 91. 2019A Gemini North GN-2019A-Q-309 (Band 3): 22.73 hours
- 90. 2019A McDonald 2.7m McD19-1-2.7-3: 17.0 nights
- 89. 2019A McDonald 2.1m McD19-1-2.7-1: 5.0 nights
- 88. 2018B Gemini North GN-2018B-Q-122 (Band 1): 10.0 hours
- 87. 2018B Gemini North GN-2018B-Q-316 (Band 3): 25.00 hours
- 86. 2018B Gemini South GS-2018B-Q-315 (Band 3): 47.27 hours
- 85. 2018B SOAR 2018B-0010: 26 hours
- 84. 2018A Gemini North GN-2018A-Q-403 (Band 4): 89.10 hours
- 83. 2018A Gemini South GS-2018A-Q-406 (Band 4): 7.90 hours
- 82. 2018A LCO/Magellan Telescope Carnegie Time: 2 nights
- 81. 2018A LCO/duPont Telescope Carnegie Time: 18 nights
- 80. 2018A Apache Point Observatory UW08: 5.0 nights
- 79. 2018A LCO/Magellan Telescope Chilean Time: 3 nights
- 78. 2018A SOAR 2018A-0021: 36 hours
- 77. 2018A McDonald 2.7m McD18-1-2.7-3: 7.0 nights
- 76. 2017B LCO/Magellan Telescope Michigan Time: 2.5 nights
- 75. 2017B Gemini North GN-2017B-Q-18 (Band 1): 10.2 hours
- 74. 2017B Gemini North GN-2017B-FT-7: 6.28 hours
- 73. 2017B Gemini North GN-2017B-Q-75 (Band 3): 41.82 hours
- 72. 2017B Gemini North GN-2017B-Q-79 (Band 4): 63.64 hours
- 71. 2017B Gemini South GS-2017B-Q-75 (Band 3): 20.91 hours
- 70. 2017B Gemini South GS-2017B-Q-84 (Band 4): 107.82 hours
- 69. 2017A Southern African Large Telescope 2017-1-MLT-012: 55.6 hours
- 68. 2017A Gemini North GN-2017A-Q-82 (Band 3): 202.0 hours
- 67. 2017A Gemini South GS-2017A-Q-86 (Band 3): 142.5 hours
- 66. 2017A ESO/NTT 099.D-0428: 5.0 nights
- 65. 2017A LCO/Magellan Telescope Carnegie Time: 3 nights
- 64. 2017A LCO/duPont Telescope Carnegie Time: 19 nights
- 63. 2017A SOAR 2017A-0016: 40 hours
- 62. 2016B Gemini North GN-2016B-Q-77 (Band 3): 6.4 hours
- 61. 2016B Gemini South GS-2016B-Q-81 (Band 3): 32.3 hours
- 60. 2016B ESO/NTT 098.D-0434: 4.0 nights
- 59. 2016B Hubble Space Telescope Cycle 24 HST-GO-14765: 40 orbits
- 58. 2016B LCO/duPont Telescope Carnegie Time: 5 nights

- 57. 2016A ESO/NTT 097.D-0196: 7.0 nights
- 56. 2016A Apache Point Observatory UW07: 2.5 nights
- 55. 2016A Gemini North GN-2016A-Q-17 (Band 1): 9.8 hours
- 54. 2016A Gemini North GN-2016A-Q-75 (Band 3): 79.4 hours
- 53. 2016A Gemini South GS-2016A-Q-76 (Band 3): 74.0 hours
- 52. 2016A SOAR 2016A-0019: 4.0 nights
- 51. 2015B Southern African Large Telescope 2015-2-SCI-056: 117.8 hours
- 50. 2015B Hubble Space Telescope Cycle 23 HST-GO-14231: 18 orbits
- 49. 2015B Gemini North GN-2015B-Q-86 (Band 3): 26.5 hours
- 48. 2015B Gemini South GS-2015B-Q-71 (Band 3): 42.9 hours
- 47. 2015B SOAR 2015B-0020: 5.0 nights
- 46. 2015A ESO/VLT 095.D-0504(A): 30.0 hours
- 45. 2015A Gemini North GN-2015A-Q-76 (Band 3): 45.8 hours
- 44. 2015A Gemini South GS-2015A-Q-77 (Band 3): 42.8 hours
- 43. 2015A Gemini South GS-2015A-Q-92 (Band 4): 26.0 hours
- 42. 2014B ESO/VLT DDT293.D-5036(A): 2.4 hours
- 41. 2014B Gemini South GS-2014B-Q-67 (Band 3): 55.0 hours
- 40. 2014B Gemini North GN-2014B-Q-85 (Band 3): 55.0 hours
- 39. 2014B KPNO Mayall 2014B-0231: 3.0 nights
- 38. 2014B SOAR 2014B-0231: 3.0 nights
- 37. 2014A Gemini South GS-2014A-Q-88 (Band 3): 66.7 hours
- 36. 2014A KPNO Mayall 2014A-0323: 8.0 nights
- 35. 2013B KPNO Mayall 2013B-0046: 6.5 nights
- 34. 2013B Gemini South GS-2013B-Q-75 (Band 3): 50.0 hours
- 33. 2013B Gemini North GN-2013B-Q-81 (Band 3): 50.0 hours
- 32. 2013B SOAR SO2013B-S102: 17.0 hours (long term)
- 31. 2013B ESO/NTT 092.D-0308(A): 6 nights
- 30. 2013B McDonald 2.1m McD13-3: 5 nights
- 29. 2013B LNA/Brazil 2013B-P012: 6 nights
- 28. 2013B NOT (Nordic Optical Telescope) 48-031: 3.5 nights
- 27. 2013A Gemini North GN-2013A-Q-113 (Band 4): 54.5 hours
- 26. 2013A Gemini South GS-2013A-Q-91 (Band 3): 54.6 hours
- 25. 2013A Gemini South GS-2013A-Q-95 (Band 4): 10.9 hours
- 24. 2013A ESO/NTT 091.D-0292(A): 6 nights
- 23. 2013A LNA/Brazil 2013A-P030: 4 nights
- 22. 2013A SOAR SO2013A-LP2: 17.0 hours (long term)
- 21. 2013A NOT (Nordic Optical Telescope) 47-003: 3.0 nights
- 20. 2012B NOT (Nordic Optical Telescope) 46-011: 2.5 nights
- 19. 2012B ESO/VLT (X-Shooter) 090.D-0321(A): 12 hours
- 18. 2012B LCO/Magellan MAG/12B/9: 2 nights

- 17. 2012B AAO/AAT AAT/12B/032: 6 nights
- 16. 2012B SOAR SO2012B-005: 8.0 hours (long term)
- 15. 2012A Gemini South GS-2012A-Q-81 (Band 4): 74.0 hours
- 14. 2012A AAO/AAT AAT/12A/011: 4 nights
- 13. 2012A LCO/Magellan MAG/12A/7: 2 nights
- 12. 2012A SOAR SO2012A-002: 16.0 hours
- 11. 2011B Gemini South GS-2011B-Q-91 (Band 4): 75.0 hours
- 10. 2011B SOAR (SO2011B-008): 24.0 hours
- 9. 2011A Gemini South GS-2011A-Q-85 (Band 3): 63.4 hours
- 8. 2011A CFHT CF2011A-002: 13.9 hours
- 7. 2010B CFHT 10BB05A/10BB99B: 13.9 hours
- 6. 2010A Gemini South GS-2010A-Q-78 (Band 4): 25.0 hours
- 5. 2009B SOAR SO2009B-004: 17.0 hours
- 4. 2009A SOAR SO2009A-0249: 6 nights
- 3. 2009A SOAR SO2009A-014: 32.0 hours
- 2. 2008A SOAR SO2008A-006: 3 nights
- 1. 2007B SOAR SO2007B-006: 3 nights

Press releases, articles, and media resources

2022

Space.com

Stunning time-lapse videos show the Super Flower Blood Moon in bloom

digg

Footage From Gemini Observatory's Fisheye Lens Captures A Stunning Glimpse Of The Milky Way

Associated Press

Twinkle, twinkle giant star, astronomers see how far you are (external opinion)

2021

NBC News

An ancient star casts new light on the birth of the universe

Phys.org

Reseachers detect a new ultra-metal-poor star

NOIRLab Stories

Ultra Metal-Poor Star Discovery

Revista FAPESP (featured article)

Star Fossil

S-PLUS Press Release

Astronomers discover an ultra metal-poor star that challenges models for the evolution of the first stars

India Education Diary

University Of São Paulo: Astronomers Discover Star That Challenges Current Models Of Evolution Of The Universe

Jornal da USP (in Portuguese)

Astrônomos descobrem estrela que desafía modelos atuais de evolução do Universo

Ravista FAPESP (in Portuguese)

Fóssil Estelar

Observatório Nacional (in Portuguese) - Audio interview

Astrônomos descobrem estrela que desafia modelos atuais de evolução do Universo

Revista Planeta (in Portuguese)

Achada estrela que desafia modelos atuais de evolução do universo

tilt UOL (in Portuguese)

"Ultrapobre": brasileiros encontram uma das estrelas mais raras do universo

Sputnik News Brasil (in Portuguese)

Detectada estrela recordista em carência metálica que pode explicar evolução inicial do Universo

Hypeness (in Portuguese)

Telescópio com tecnologia brasileira localiza estrela mais velha que o Sol

Notícias da Universidade Federal de Santa Catarina (in Portuguese)

Projeto internacional de astronomia com participação da UFSC descobre estrela rara

Agência Brasil - Rádio Nacional (in Portuguese - with audio interview)

Universo: cientistas descobrem estrela rara e considerada ultrapobre

CAPES - Ministério da Educação (in Portuguese)

Estrela rara desafia lógica da astrofísica

TEKCRISPY (in Spanish)

La humanidad podría haber descubierto una de las estrellas más antiguas del universo

NOIRLab Stories (in Spanish)

Descubrimiento de una estrella ultra pobre en metal

2020

Phys.org (online)

Peculiar chemical abundance pattern detected in the star RAVE J183013.5-455510

Inside Higher Ed (online)

The rise of the remote Ph.D. defense

Gemini Observatory - GeminiFocus 2019 Year In Review (online)

Making Good Use of Bad Weather: Finding Metal-poor Stars Through the Clouds

2019

MIT News (online)

Explosions of universe's first stars spewed powerful jets

Gemini Observatory News (online)

Making Good Use of Bad Weather: Finding Metal-poor Stars Through the Clouds

Gemini Observatory - GeminiFocus April 2019 Lead Science Article (online)

Making Good Use of Bad Weather: Finding Metal-poor Stars Through the Clouds

2018

Notre Dame Science - Department of Physics News (online)

Summertime Stargazing event draws large crowd

Notre Dame Stories (online)

Heavy Metals

2017

Revista FAPESP (in Portuguese - online)

Fonte de ouro e régua do universo

Agência FAPESP (in Portuguese - online)

Nova fonte de ondas gravitacionais é observada

Notre Dame News (online)

Students in right place, right time witness first-ever detected neutron star collision

Notre Dame College of Science News (online)

Astrophysics graduate students witness first-ever detected neutron star collision

Agência FAPESP (in Portuguese - online)

Estudo detecta elétrons duplamente acelerados no choque de aglomerados de galáxias

École Polytechnique News (online)

The inaugural issue of Nature Astronomy features the work of F. Andrade-Santos

Jornal da USP (in Portuguese - online)

Cientistas descobrem poderosa colisão cósmica dupla

Folha de São Paulo (in Portuguese - online)

Quando aglomerados de galáxias colidem e um buraco negro gigante entra no meio da história

Nature Astronomy (online - issue cover)

The case for electron re-acceleration at galaxy cluster shocks

Chandra X-ray Observatory Blog (online)

The Discovery of Particle Re-acceleration in a Galaxy Cluster Collision

Notre Dame News (online)

Notre Dame astrophysicist confirms source of galaxy collision

2016

Nature Physics (online - issue cover)

The age structure of the Milky Way's halo

Notre Dame News (online)

Second-generation stars identified, giving clues about their predecessors

Science Alert (online)

Astronomers have created the most detailed age map of the Milky Way yet

Universe Today (online)

Best picture yet of Milky Way's formation 13.5 billion years ago

Notre Dame News (online)

Detailed age map shows how Milky Way came together

Daily Mail (online)

How the Milky Way formed: Stunning 3D maps show how 130,000 stars came together 13.5 billion years ago

Daily Mail (online)

Graphic shows age structure of the Milky Way's halo

Astrobites (online)

Our halo is getting younger, spatially speaking

UPI (online)

New map details formation of the Milky Way galaxy

International Business Times (online)

How Did The Milky Way Form? New Chronographic Map Provides Answers

Phys.org (online)

Detailed age map shows how Milky Way came together

Reddit Journal of Science (online)

Detailed age map shows how Milky Way came together

Science Daily (online)

Detailed age map shows how Milky Way came together

Laboratory Equipment (online)

Detailed age map shows how Milky Way came together

Geek Journal (online)

Detailed age map shows how Milky Way came together

AboNewsCast (online)

Detailed age map shows how Milky Way came together

Science Newsline (online)

Detailed age map shows how Milky Way came together

MSU Today (online)

Astronomers pinpoint how Milky Way Galaxy was formed

Ancient Code (online)

How the Milky Way formed: Awesome 3D map shows how 130,000 stars merged

Astro Watch (online)

Detailed Age Map Shows How Milky Way Came Together

Science Bulletin (online)

Detailed Age Map Shows How Milky Way Came Together

Science Blog (online)

Astronomers pinpoint how Milky Way Galaxy was formed

EurekAlert! (online)

Detailed Age Map Shows How Milky Way Came Together

nano werk! (online)

Detailed Age Map Shows How Milky Way Came Together

Life Science Network (online)

The age structure of the Milky Way's halo

Jornal da USP (in Portuguese - online)

Astrônomos brasileiros mapeiam estrutura de idades do halo da Via Láctea

Agência FAPESP (in Portuguese - online)

Pesquisadores mapeiam a distribuição cronológica dos astros da Via Láctea

Revista Galileu (in Portuguese - online)

Brasileiros confirmam que estrelas na borda da Via Láctea são as mais novas

O Povo (in Portuguese - online)

Como os astros da Via Láctea se distribuem?

Space Today TV (in Portuguese - online)

Como a Via Láctea Se Formou

Público (in Spanish - online)

Así se formó la Vía Láctea

Geofísica Brasil (in Portuguese - online)

IAG-USP mapeia distribuição cronológica dos astros da Via Láctea

Planeta Universitário (in Portuguese - online)

Pesquisadores mapeiam a distribuição cronológica dos astros da Via Láctea

News Rondônia (in Portuguese - online)

Pesquisadores mapeiam a distribuição cronológica dos astros da Via Láctea

JINA-CEE Newsletter (online - Page 2)

Evidence for Multiple Progenitors of CEMP-no Stars

Space Daily (online)

Relics of the Milky Way's first generation of stars

University of Michigan News (online)

Relics of the Milky Way's first generation of stars

Notre Dame News (online)

Astrophysicists release new study of one of the first stars

Newswise (online)

Astrophysicists release new study of one of the first stars

EurekAlert! - AAAS (online)

Astrophysicists release new study of one of the first stars

Scientia (online - page 13)

Physics team creates Milky Way galaxy map

JINA-CEE Newsletter (online)

Discovery of the Brightest Ultra Metal-Poor Star

Agência FAPESP (in Portuguese - online)

Via Láctea cresceu de dentro para fora

Exame.com (in Portuguese - online)

Via Láctea cresceu de dentro para fora, diz pesquisa

Planeta Universitário (in Portuguese - online)

Via Láctea cresceu de dentro para fora

European Southern Observatory Photo Press Release (online)

ESO Telescopes Spy a Rare Relic

Notre Dame News (online)

Newly discovered star offers opportunity to explore origins of first stars in the early universe

Space Daily (online)

How the first stars sprung to life in early universe

Astronomy Now UK (online)

Ancient star provides insight into stellar origins in early universe

Empresa Brasil de Comunicação (in Portuguese - online)

História da Via Láctea ganha novos capítulos com descoberta de estrela por equipe da USP

Correio Braziliense (in Portuguese - online)

Astrônomos brasileiros identificam estrela rara na Via Láctea

Globo.com (in Portuguese - online)

Professor da USP descobre estrela tão antiga quanto o Universo

G1.globo.com (in Portuguese - online)

Astrônomos identificam estrela antiga e rara na Via Láctea

Agência USP de Notícias (in Portuguese - online)

Estrela traz evidências do início da Via Láctea

Universidade de São Paulo - Notícias (in Portuguese - online)

Equipe liderada pela USP identifica estrela chave para entender o início da Via Láctea

Agência FAPESP (in Portuguese - online)

Astrônomos brasileiros identificam estrela rara na Via Láctea

Folha de São Paulo (in Portuguese - online)

Astrônomos encontram uma estrela quase tão velha quanto o próprio Universo

JINA-CEE Newsletter (online)

Hubble Space Telescope Near-Ultraviolet Spectroscopy of Bright CEMP-s Stars

JINA-CEE Newsletter (online)

The First Age Map of the Galactic Halo

2015

Jornal da USP (in Portuguese - online)

Mapa permite estimar idade dos componentes da Via Láctea

UOL Notícias (in Portuguese - online)

Mapa permite estimar idade das estrelas da Via Láctea

Astronomy & Astrophysics Highlights (online)

2MASS J18082002-5104378: The brightest (V=11.9) ultra metal-poor star

The Observer (online and print)

Galactic archeologists create the first map of Milky Way's stellar halo

Best Education News (online)

Astrophysicists produce the first age map of the halo of the Milky Way

National Science Foundation - News from the Field (online)

Astrophysicists produce the first age map of the halo of the Milky Way

Notre Dame News (online)

Astrophysicists produce the first age map of the halo of the Milky Way

The Watchers (online)

The first age map of the Milky Way's halo produced

Red Orbit (online)

First-ever Milky Way age map shows oldest stars clustered in center

Headlines and Global News (online)

Milky Way Age Map Created For The First Time, Confirming Past Assumptions In Astrophysics

Global News Connect (online)

Astrophysicists furnish a initial age map of a Halo of a Milky Way

Sciece World Report (online)

First Ever Age Map of the Milky Way Galaxy Reveals History of the System

Media INAF (in Italian - online)

Quanto è vecchia la Via Lattea?

The Observer (online and print)

"Our Universe Revealed" lecture looks at chemical composition of stars

2014

JINA-CEE Newsletter (online)

Seven New Stars with [Fe/H]< -3 – Six of them CEMP-no

Phys.org (online)

Galactic archaeologists uncover new insights into the formation of the earliest stars and galaxies