

Curriculum Vitæ - Vinicius Moris Placco

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Contents

Personal information	2
Employment / Appointments	2
Education	2
Awards	2
Observatory Experience	3
Leadership Roles/Service	3
Operations and Instrument/User Support	3
Observing Experience	4
Research Experience	5
Funding	5
Fellowships	6
Visiting Faculty/Postdoc/Graduate Student	6
Academic Experience	7
Teaching	7
Student/Postdoc supervision	8
Committee Service	8
Thesis Defense Committee	8
Other relevant information	9
Computing skills	9
Online Resources	9
Professional Affiliations/Service	9
Invited / Contributed talks	10
Quantitative Indicators	14
Publication list	14
Refereed articles	14
Proceedings, non-refereed publications and abstracts	21
Telescope time allocations	25
Principal Investigator	25
Co-Investigator	26
Press releases, articles, and media resources	29

Personal information

Full name Vinicius Moris Placco
Nationality Brazilian and Italian; US permanent resident
Languages Portuguese (native), English (fluent),
Spanish (intermediate), Italian (basic)
Address 5621 Town Center Drive, ap 13
Granger, IN 46530 - USA
Phone +1 (520) 468-8215
Website <http://vmplacco.github.io/>
e-mail vmplacco@gmail.com

Employment / Appointments

2015– Research Assistant Professor
Department of Physics
University of Notre Dame
2018– 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

Leadership roles/Service

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

Operations and Instrument/User Support

- 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	5	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

Current

- 2018–2020 Hubble Space Telescope (Co-PI)
The Unexplored Domains of the s-Process
Space Telescope Science Institute (USD 119,104)
- 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)
- 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)

Pending

- 2020–2023 Hubble Space Telescope (PI)
Observing Proposal for Cycle 28
Space Telescope Science Institute (Budget TBD)
- 2020–2023 NSF - Division of Astronomical Sciences (PI)
Astronomy and Astrophysics Research Grant
National Science Foundation (USD 320,618)

Past (Total: USD 255,393)

- 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) – Universidade de São Paulo
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 Astrophysics)
- 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

Teaching

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

Undergraduate

University of Notre Dame

- | | | |
|------|------|--|
| 2020 | (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 |

Graduate

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 |

Student/Postdoc supervision

Postdoctoral level

2019–present Hélio Dotto Perottoni ([Universidade de São Paulo](#))

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

2020–present Guilherme Limberg (Universidade de São Paulo)

2019–present Carlos Andrés Galarza Arevalo ([Observatório Nacional - Brazil](#))

2019–present Joseph Zepeda

2019–present Derek Shank

2015–present Devin Whitten

2015–present Sarah Dietz

2015–present Dmitrii Gudin

2015–2020 Erika Holmbeck

2015–2020 Kaitlin Rasmussen

2015–2017 Geoffrey Lentner

2010–2016 Rafael Santucci (M.Sc. and Ph.D. - Universidade de São Paulo)

Undergraduate Level (advisor) - University of Notre Dame

2020–present Dante Komater (Physics Major)

2019–present Lucas Pinheiro (Engineering Major)

2019 Shenghua Liu (Physics Major)

2019 Winter Allen (Arkansas Tech University - REU)

2019 Yihao Zhou (Shanghai Jiao Tong University - REU)

2018–2020 Guilherme Limberg (Universidade de São Paulo)

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)

2016 Travis Hodges (Austin Peay State University - DISC/REU)

2016 Miguel Correa (San Diego State University - REU)

2015 Siyu He (Xi'an Jiaotong University - REU)

2012–2014 William Alves (Universidade de São Paulo)

2008–2010 Rafael Santucci (Universidade de São Paulo)

Committee Service - University of Norte Dame

2019–present 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

2019 Heitor Ernandes (Ph.D. - committee chair)

Universidade de São Paulo

2019 [Henrique Reggiani](#) (Ph.D.)

Universidade de São Paulo

2016 [Rafael Miloni Santucci](#) (Ph.D.)

Universidade de São Paulo

2016 [Camilo Francisco Javier Muñoz Peña](#) (M.Sc.)

Universidade de São Paulo

Other relevant information

Computing skills

Linux/Unix/MACOSX/Windows operating systems
Shell Scripting (sh, bash, tcsh, zsh)
L^AT_EX, OpenOffice, MS Office. Co-author of the L^AT_EXtemplate [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
Graphics: Gnuplot, ggplot2, matplotlib, bokeh, tableau
Data reduction: IRAF/Pyraf/Gemini packages, focused on spectroscopy
Astronomy tools: WCSTools, CDSclient, STILTS, SkyCalc
Version control: Git

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

2020

- * 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
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 2nd 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 Astronomía – [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 1st 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 Hierarchical 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: **3424 citations** / **h-index = 27** / **i10-index = 57** (June 26, 2020 - [ADS link](#))
- Google Scholar: **3913 citations** / **h-index = 28** / **i10-index = 56** (June 26, 2020 - [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: 77 publications (14 first author, 8 second author, 10 third author)



★ **Placco, V. M.**, J-PLUS Collaboration, S-PLUS Collaboration

Finding Metal-Poor Stars from Narrow-Band Photometry: Spectroscopic Validation using Gemini Poor-Weather
2020, The Astrophysical Journal, in preparation

77. 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
2020, The Astrophysical Journal, submitted

76. **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, in press

75. 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: J1521–3538, 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, in press

74. 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, in press

73. Ezzeddine, R., Rasmussen, K., Frebel, A., Chiti, A., Hinojisa, K., **Placco, V. M.**, Beers, T. C., Hansen, T. T., Roederer, I. U., Sakari, C. M., Ji, A. P., Meléndez, J.

- The R-Process Alliance: First Magellan/MIKE Release from the Southern Search for R-Process-enhanced Stars*
2020, The Astrophysical Journal, in press
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., Akas, 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, in press
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](#))
69. 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](#))
68. 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 AGB 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., Vilchez, J., Alcaniz, J., Angulo, R., Dupke, R., Hernández-Monteagudo, C., Mendes de Oliveira, C., Moles, M., Sodré, L., Jr.
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. Matijević, 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., Sodrê 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., Akas, 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., Sodrê, 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., Matijević, 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](#))
50. 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](#))
47. 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., Matijević, 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](#))
45. 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 $[Fe/H] \sim -2$
2018, *The Astrophysical Journal Letters*, vol. 854, 20 ([ADS link](#) | [download pdf](#))

43. 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., Murguía-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.aag0186 ([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., García 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., Rodríguez, H., Sampedro, L., Schneider, M., Sodrè, L., Starck, M., Torres-Flores, S., Tornatore, M., Zdrozny, 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](#))
40. 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. Kieley, 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., García-Hernández, 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., Mészáros, Sz., Masseron, T., García-Pérez, A. E., Anders, F., Meza, A., Alves-Brito, A., Carrera, R., Minniti, D., Lane, R. R., Fernández-Alvar, E., Moreno, E., Pichardo, B., Pérez-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-Cuadros, S., Hernández, J., Alonso-García, 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](#))
37. 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](#))

34. 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](#))
33. 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](#))
31. 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](#))
29. 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](#))
28. **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](#))
27. 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](#))
26. 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](#))
25. 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](#))
23. 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](#))
22. 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](#))
20. 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](#))
16. 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](#))
13. 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](#))
11. 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](#))
10. 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](#))

9. 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 $[Fe/H] \leq -3.5$
2014, *The Astrophysical Journal*, vol. 781, 40 ([ADS link](#) | [download pdf](#))
7. 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](#))
5. **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
2011, *The Astronomical Journal*, vol. 142, 188 ([ADS link](#) | [download pdf](#))
4. 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
2011, *The Astronomical Journal*, vol. 141, 102 ([ADS link](#) | [download pdf](#))
3. **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
2010, *The Astronomical Journal*, vol. 139, 1051 ([ADS link](#) | [download pdf](#))
2. 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
2009, *The Astronomical Journal*, vol. 138, 533 ([ADS link](#) | [download pdf](#))
1. Lichtenh ler, R., L pine-Szily, A., Guimar es, 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

39. 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**
38. 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**
37. V zquez Rami , H., Crist bal-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., Gud n, 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](#))
29. van Weeren, R. J., Andrade-Santos, F., Dawson, W. A., Golovich, N., Lal, D. V., Kang, H., Ryu, D., Brüggen, M., Oglean, 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. C., **Placco, V. M.**, Holmbeck, E. M., Hansen, T. T., Simon, J. D., Thompson, I., Frebel, A. *Searching for New Highly r -Process-Enhanced Stars in the Halo of the Milky Way*, **American Astronomical Society, AAS Meeting #229, 2017**
26. 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**
23. Hasselquist, S., Shetrone, M. D., Smith, V. V., Cunha, K., McWilliam, A., Holtzman, J. A., Majewski, S. R., Sobek, 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](#))
21. **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**
16. 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. N., Benjamim, E. A., Kuramoto, R. Y. R., Added, N., Lima, G. F., Hussein, M. S., 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: 139

Total awarded: 6082.36 hours

Principal Investigator

Approved observing projects: 44

Total awarded: 1555.55 hours

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
17. 2013B - Gemini North - GN-2013B-Q-105 (Band 4): 25.0 hours
16. 2013B - SOAR - SO2013B-001: 30.0 hours
15. 2013A - SOAR - SO2013A-018: 34.0 hours
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: 95

Total awarded: 4526.81 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

2020

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*](#)

Astrobit.es (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*](#)

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[*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

Science 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