

INAF Osservatorio Astrofisico di Arcetri

ISSUE 6, FEB. 2021

REFEREED PUBLICATIONS

E. Amato, S. Casanova

On particle acceleration and transport in plasmas in the Galaxy: theory and observations

Journal of Plasma Physics (2021), 87, 1

<https://www.cambridge.org/core/journals/journal-of-plasma-physics/article/on-particle-acceleration-and-transport-in-plasmas-in-the-galaxy-theory-and-observations/06E22C763939978F07AA6ECD1A92C9DB/share/2d572e7d41fd15230bd48a173a464a0f8ed239fa>

E. Corbelli, **G. Cresci**, **F. Mannucci**, D. Thilker, **G. Venturi**

Heavy Elements Unveil the Non-primordial Origin of the Giant H I Ring in Leo

The Astrophysical Journal Letters (2021), 908, 2

<https://iopscience.iop.org/article/10.3847/2041-8213/abdf64>

Media INAF:

https://www.media.inaf.it/2021/02/22/stelle-leo-ring/?fbclid=IwAR3z6SpIXrLfjTYi6ZHxt_AXlmsY6LhN4mAKzuXMm0Ge9XYOyc7HsiU3Yuk

A. Gallazzi, A. Pasquali, **S. Zibetti**, F. La Barbera

Galaxy evolution across environments as probed by the ages, stellar metallicities and $[\alpha/\text{Fe}]$ of central and satellite galaxies

Monthly Notices of the Royal Astronomical Society, in press

<https://arxiv.org/abs/2010.04733>

L. Magrini, D. Vescovi, **G. Casali**, S. Cristallo, C.V. Vazquez, G. Cescutti, L. Spina, **M. Van Der Swaelmen**, **S. Randich**

Magnetic-buoyancy-induced mixing in AGB Stars: a theoretical explanation of the non-universal $[Y/\text{Mg}]$ -age relation

Astronomy & Astrophysics (2021), 646, L2

<https://ui.adsabs.harvard.edu/abs/2021arXiv210104429M/abstract>

N. Sanna, **E. Pancino**, G. Altavilla, S. Marinoni, **M. Rainer**

The Gaia grid of spectro-photometric standard stars

Proceedings SPIE (2020), 11449

<https://ui.adsabs.harvard.edu/abs/2020SPIE11449E..2OS/abstract>

G. Tozzi, G. Cresci, A. Marasco, E. Nardini, A. Marconi, F. Mannucci, G. Chartas, F. Rizzo, A. Amiri, M. Brusa, A. Comastri, M. Dadina, G. Lanzuisi, V. Mainieri, M. Mingozzi, M. Perna, G. Venturi e C. Vignali
Connecting X-ray nuclear winds with galaxy-scale ionised outflows in two $z \sim 1.5$ lensed quasars
Astronomy & Astrophysics, in press
<https://ui.adsabs.harvard.edu/abs/2021arXiv210207789T/abstract>

J. R. Hollis, **T. Fornaro**, W. Rapin, J. Wade, Á. Vicente-Retortillo, A. Steele, R. Bhartia, L. W. Beegle
Detection and Degradation of Adenosine Monophosphate in Perchlorate-Spiked Martian Regolith Analogue, by Deep-Ultraviolet Spectroscopy
Astrobiology, in press
<https://www.liebertpub.com/doi/abs/10.1089/ast.2020.2362?journalCode=ast>

C. Spiniello, C. Tortora, G. D'Ago, L. Coccato, F. La Barbera, A. Ferré-Mateu, N. R. Napolitano, M. Spavone, D. Scognamiglio, M. Arnaboldi, **A. Gallazzi, L. Hunt, S. Moehler, M. Radovich, S. Zibetti**
INSPIRE: INvestigating Stellar Population In RElics -- I. Survey presentation and pilot program
Astronomy & Astrophysics, in press
<https://arxiv.org/abs/2011.05347>

M. Stockmann, I. Jørgensen, S. Toft, C. J. Conselice, A. Faisst, B. Margalef-Bentabol, **A. Gallazzi, S. Zibetti, G. B. Brammer, C. Gómez-Guijarro, M. Hirschmann, C. D. Lagos, F. M. Valentino, J. Zabl**
The Fundamental Plane of Massive Quiescent Galaxies at $z \sim 2$
Astrophysical Journal, in press
<https://arxiv.org/abs/2012.05935>

E. Dalessandro, A. L. Varri, M. Tiongco, E. Vesperini, C. Fanelli, A. Mucciarelli, L. Origlia, M. Bellazzini, S. Saracino, **E. Oliva, N. Sanna, M. Fabrizio, A. Livernois**
First phase space portrait of a hierarchical stellar structure in the Milky Way
Astrophysical Journal, in press
<https://ui.adsabs.harvard.edu/abs/2021arXiv210104133D/abstract>

C. Fanelli, L. Origlia, **E. Oliva, A. Mucciarelli, N. Sanna, E. Dalessandro, D. Romano**
Stellar population astrophysics (SPA) with the TNG, The Arcturus Lab
Astronomy & Astrophysics (2021), 645, A19
<https://www.aanda.org/articles/aa/abs/2021/01/aa39397-20/aa39397-20.html>

G. Altavilla, S. Marinoni, **E. Pancino, S. Galleti, M. Bellazzini, N. Sanna, M. Rainer, G. Tessicini, J. M. Carrasco, A. Bragaglia, W. J. Schuster, G. Cocozza, M. Gebran, H. Voss, L. Federici, E. Masana, C. Jordi, M. Monguió, A. Castro, M. A. Peña-Guerrero, A. Pérez-Villegas**
The Gaia spectrophotometric standard stars survey - IV. Results of the absolute photometry campaign
Monthly Notices of the Royal Astronomical Society (2021), 501, 2
<https://ui.adsabs.harvard.edu/abs/2021MNRAS.501.2848A/abstract>

M. Riello, F. De Angeli, D.W. Evans, P. Montegriffo, J. M. Carrasco, G. Busso, L. Palaversa, P.W. Burgess, C. Diener, M. Davidson, N. Rowell, C. Fabricius, C. Jordi, M. Bellazzini, **E. Pancino**, D. L.Harrison, C. Cacciari, S. van Leeuwen, N. Hambly, S.T. Hodgkin, P.J. Osborne, G. Altavilla, M.A. Barstow, A. G.A. Brown, M. Castellani, Cowell, F. De Luise, G. Gilmore, G. Giuffrida, S. Hidalgo, G. Holland, S. Marinoni, C. Pagani, A. Piersimoni, L. Pulone, S. Ragaini, **M. Rainer**, P. J. Richards, **N. Sanna**, N.A. Walton, M. Weiler, A. Yoldas,

Gaia Early Data Release 3: Photometric content and validation

Astronomy & Astrophysics, in press

<https://ui.adsabs.harvard.edu/abs/2020arXiv201201916R/abstract>

Gaia Collaboration, A. G.A. Brown, A. Vallenari, T. Prusti et al. including **S. Randich, A. Dell’Oro, E. Pancino, M. Rainer, N. Sanna**

Gaia Early Data Release 3: Summary of the contents and survey properties

Astronomy & Astrophysics, in press

<https://ui.adsabs.harvard.edu/abs/2020arXiv201201533G/abstract>

Gaia Collaboration, X. Luri, L. Chemin, G. Clementini et al. including **S. Randich, A. Dell’Oro, E. Pancino, M. Rainer, N. Sanna**

Gaia Early Data Release 3: Structure and properties of the Magellanic Clouds

Astronomy & Astrophysics, in press

<https://ui.adsabs.harvard.edu/abs/2020arXiv201201771G/abstract>

Gaia Collaboration, S.A. Klioner, F. Mignard, L. Lindegren et al. including **S. Randich, A. Dell’Oro, E. Pancino, M. Rainer, N. Sanna**

Gaia Early Data Release 3: Acceleration of the solar system from Gaia astrometry

Astronomy & Astrophysics, in press

<https://ui.adsabs.harvard.edu/abs/2020arXiv201202036G/abstract>

Gaia Collaboration, R. L. Smart, L. M. Sarro, J. Rybizki et al. including **S. Randich, A. Dell’Oro, E. Pancino, M. Rainer, N. Sanna**

Gaia Early Data Release 3: The Gaia Catalogue of Nearby Stars

Astronomy & Astrophysics, in press

<https://ui.adsabs.harvard.edu/abs/2020arXiv201202061G/abstract>

Gaia Collaboration, T. Antoja, P. McMillan, G. Kordopatis et al. including **S. Randich, A. Dell’Oro, E. Pancino, M. Rainer, N. Sanna**

Gaia Early Data Release 3: The Galactic anticentre

Astronomy & Astrophysics, in press

<https://ui.adsabs.harvard.edu/abs/2021arXiv210105811G/abstract>

C. G. Díaz, E.V. Ryan-Weber, W. Karman, K. I. Caputi, **S. Salvadori**, N. H. Crighton, M. Ouchi, E. Vanzella

Faint LAEs near $z > 4.7$ C IV absorbers revealed by MUSE

Monthly Notices of the Royal Astronomical Society (2021), 502, 2

<https://ui.adsabs.harvard.edu/abs/2021MNRAS.502.2645D/abstract>

Gallart, C.; Monelli, M.; Ruiz-Lara, T.; Calamida, A.; Cassisi, S.; Cignoni, M.; Anderson, J.; Battaglia, G.; Bermejo-Clement, J. R.; Bernard, E. J.; Martínez-Vázquez, C. E.; Mayer, L.; **Salvadori, S.**; Monachesi, A.; Navarro, J. F.; Shen, S.; Surot, F.; Tosi, M.; Bajaj, V.; Strinfellow, G. S.

The star formation history of Eridanus II: on the role of SNe feedback in the quenching of ultra-faint dwarf galaxies

The Astrophysical Journal (ApJ), in press

<https://ui.adsabs.harvard.edu/abs/2021arXiv210104464G/abstract>

A. Liu, **P. Tozzi**, P. Rosati, P. Bergamini, G. Bartosch Caminha, R. Gilli, C. Grillo, M. Meneghetti, A. Mercurio, M. Nonino, E. Vanzella

Systematic search for lensed X-ray sources in the CLASH fields

Astronomy & Astrophysics, in press

<https://arxiv.org/abs/2102.05788>

TECHNOLOGICAL MILESTONES

NASA's Mars Perseverance

On Feb. 18, 2021, NASA's Mars Perseverance rover made its final descent to the Red Planet.

Thanks to terrain-relative navigation, Perseverance landed in a very safe plain area named Canyon de Chelly, which is about 2 kilometers south-east from the delta, at the border of two different geological units. Still debating among the science team if the rocks nearby the rover are sedimentary or volcanic. All check-outs show nominal conditions. Next step will be helicopter deployment.

Team: John Brucato (collaborator), Teresa Fornaro (participating scientist), Giovanni Poggiali (collaborator).

Perseverance Rover's Descent and Touchdown on Mars (Onboard Camera Views):

<https://mars.nasa.gov/mars2020/multimedia/videos/?v=461>

Media:

<https://docs.google.com/document/d/1HekDXp2ADjDZPfvLypDmnSWHZ5H1adl4RWtKmjJUseWg/edit?usp=sharing>



Cr: NASA

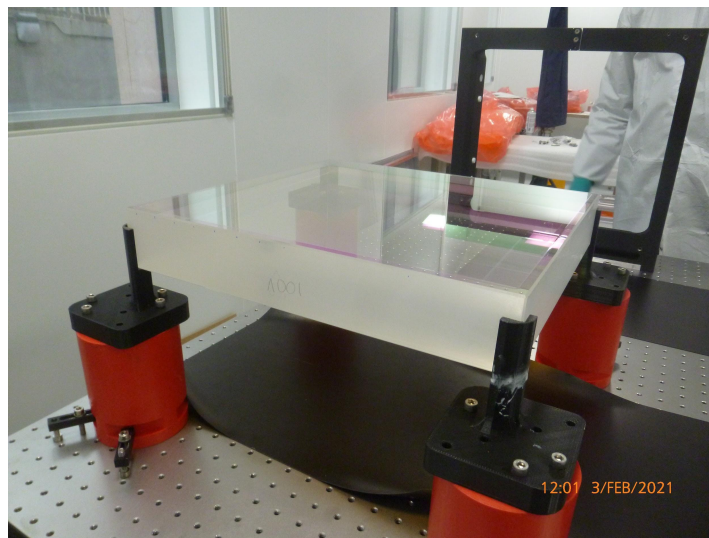
MOONS-ESO: fixed optics

The MOONS-ESO team at UK Astronomy Technology Centre (Edinburgh) fitted all the fixed optics into their mounts and subsystems.

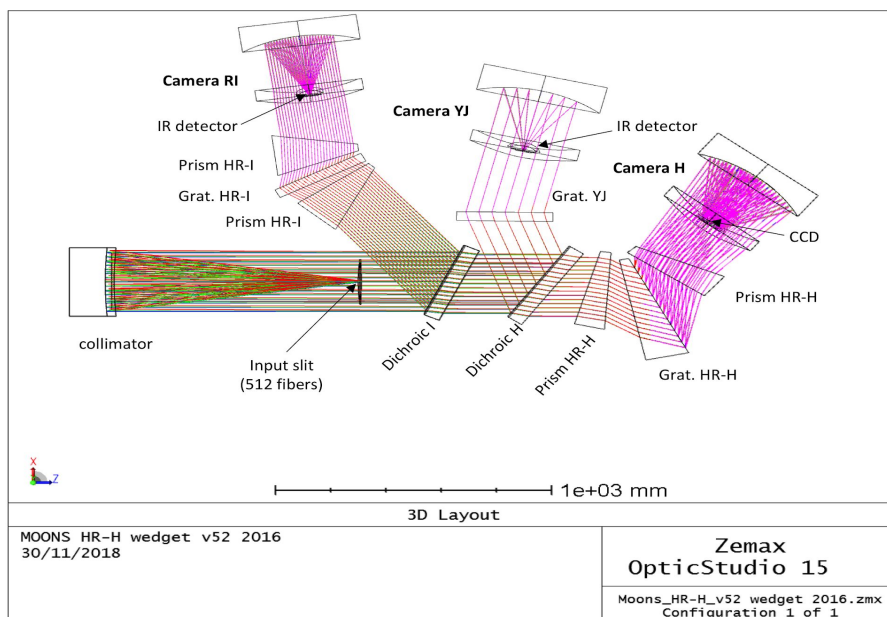
The fixed optics have been successfully installed, designed, manufactured and tested by INAF-OAA: these are the dichroics that separate the light spectrum of the thousand optical fibers in the three different branches of which MOONS is composed (branch H, JY and RI) and of two of the six earth rods, in particular those of the YJ branch. All the parts are held in place with springs and sprung clamps to ensure the glass is held gently enough not to distort it, but also firmly enough that it will not move when being shipped, or should it be effected by an earthquake at the telescope.

Team: A. Tozzi, E. Oliva, C. Del Vecchio

Link: <https://vltmoons.org/2021/02/12/installing-the-fixed-optics/>



Cr: UK-ATC (Edinburgh)



MOONS-ESO Optical design. Cr: INAF-OAA

NEW ARRIVALS

POSTDOCTORAL FELLOW

Rossella Spiga



After completing a Master Degree in Astronomy at University of Padova, I attended the Master course in Science Journalism and Institutional Communication at University of Ferrara, with a thesis on the communication strategies of space agencies. I worked over ten years as outreach officer at the Department of Physics and Astronomy of Padova. I usually write for Media INAF and other magazines. I am the author of the chapter "Space, Science and Society" in *"Communicating Space Exploration: Challenges, State of the Art and Future Trends"* (F. Drigani, Springer, 2020). I collaborate with the International Astronomical Union as deputy of the Italian National Outreach Coordinator. At INAF Osservatorio Astrofisico di Arcetri I will be in charge of the communication office.