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G. Casali, L. Spina, **L. Magrini**, A. I. Karakas, C. Kobayashi, A. R. Casey, S. Feltzing, **M. Van der Swaelmen**, **M. Tsantaki**, P. Jofré, A. Bragaglia, D. Feuillet, T. Bensby, K. Biazzo, A. Gonneau, G. Tautvaišiene, M. Baratella, V. Roccatagliata, **E. Pancino**, S. Sousa, V. Adibekyan, S. Martell, A. Bayo, R. J. Jackson, R. D. Jeffries, G. Gilmore, **S. Randich**, E. Alfaro, S. E. Koposov, A. J. Korn, A. Recio-Blanco, R. Smiljanic, **E. Franciosini**, A. Hourihane, L. Monaco, **L. Morbidelli**, **G. Sacco**, C. Worley and S. Zaggia.

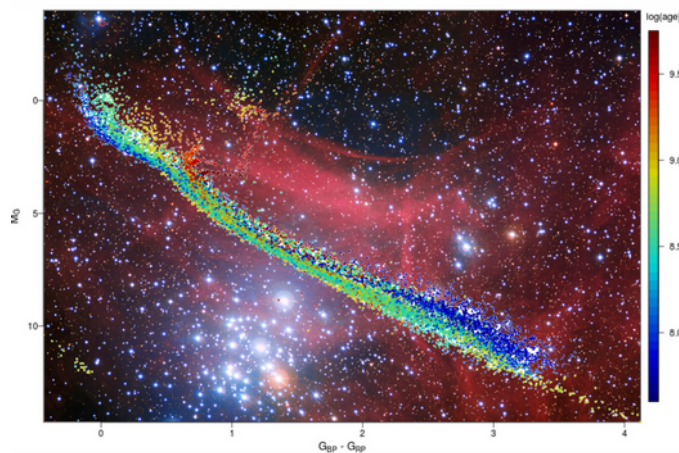
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Credit: Gaia data - ESA/Gaia/DPAC, Carine Babusiaux and co-authors of the paper Gaia Data Release 2: Observational Hertzsprung-Russell diagrams; Credit NGC 3293 - ESO/G. Beccari; Graphic design: R. Spiga (INAF).

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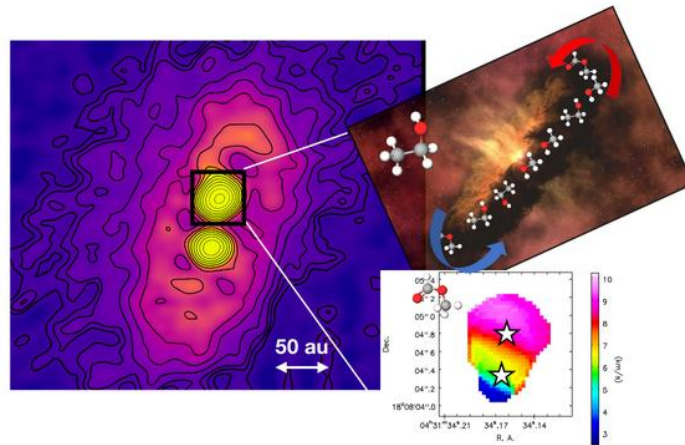
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Credit: Cruz-Sàenz de Miera et al. 2019; Nasa/Jpl-Caltech.

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TECHNOLOGICAL MILESTONES

Review OTT (Optical Test Tower) for M4

REPORT: The OTT, the test facility for the 2.5 m diameter deformable mirror (M4) of the ELT, is on the go!

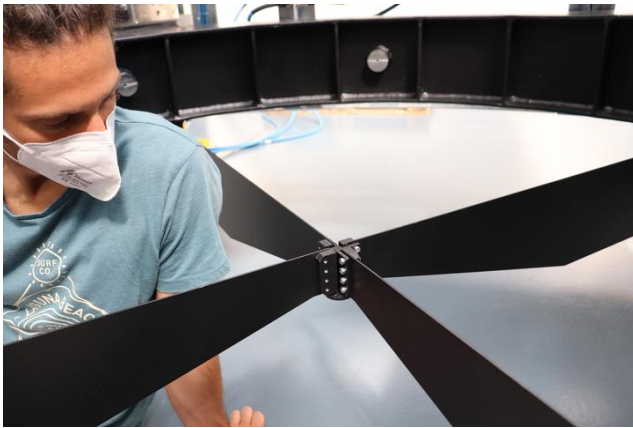
On July 21st, the system electro-mechanical review held in ADS international (Lecco), a partner of the AdOptica consortium for the manufacturing of M4. The test facility is composed by an external supporting structure and a movable interferometric tower, suspended by pneumatic isolators to damp vibrations.

Part of the M4-INAF team; **M. Xompero**, G. Pariani (INAF Merate), **C. Selmi**, N. Azzaroli and **R. Briguglio**, under the lead of **A. Riccardi**) started inspecting and validating the tower, to find out all the potential issues for the forthcoming optical test of M4.

NEXT STEPS: installation and precise alignment of test optics and interferometer.

<http://adoni.inaf.it/attivita/le-due-torri-i/>

<http://adoni.inaf.it/attivita/le-due-torri-ii/>



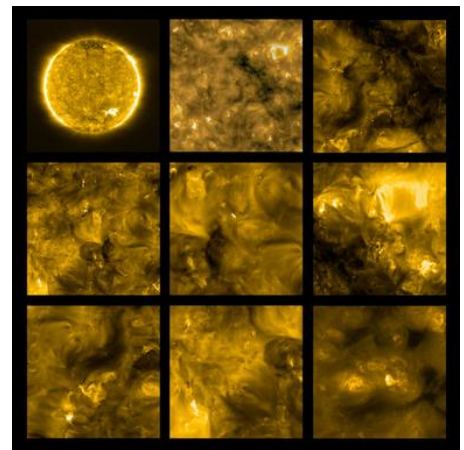
Credit: R. Briguglio (INAF-OAA).



Solar Orbiter mission (ESA/NASA)

UPDATES: The commissioning of the spacecraft has been performed and completed during the Covid-19 lockdown and Solar Orbiter has reached the first perihelion at about 0.5AU on June 15th. The images achieved at perihelion by the telescopes are the first images of the Sun obtained at this distance and have the best spatial resolution ever. The spacecraft will reach the nominal operations orbit at the end of 2021. Metis, the Solar Orbiter coronagraph, has obtained the first light on May 15 after the optimization of the internal occulter position. These images are the first simultaneous images of the extended solar corona (1.6-9.0 raggi solari) in linearly polarized visible light (580-640nm) and in the HI Ly-alpha line. From these images, the density of the two major components of the solar corona - electrons and protons - can be retrieved together with a solar wind map. Surprisingly, in the UV image, the extension of the equatorial belt can be seen till the edge of the present field of view at 7 solar radii. The closest perihelion will be reached at 0.28AU, but already at this distance Metis has achieved the best spatial resolution ever obtained by spaceborne and ground based coronagraphs, with the exception of the short glimpses taken during the total solar eclipses.

(S. Fineschi, G. Naletto, M. Romoli, et al., 2020, [Optical design of the multi-wavelength imaging coronagraph Metis for the solar orbiter mission](#))



Credit: Solar Orbiter/Eui Team/ Esa & Nasa; Csl, Ias, Mps, Pmod/Wrc, Rob, Ucl/Mssl