



INAF – Collurania Astronomical Observatory



EXTRASOLARI LIVE! PROJECT



COELUM Astronomia – Planetary Research Team

EXTRASOLAR LIVE! PROJECT

INVITATION TO OBSERVE XO-2b EXTRASOLAR PLANET TRANSIT ON 27th FEBBRUARY 2008



The COOKE 40 cm historical refractor telescope at Collurania Observatory. This instrument belonged to Vincenzo Cerulli, one of the greater Italian astronomers (1859 – 1927), who discovered the real nature of Mars "Channels".



Mauro Dolci, astronomer at Collurania Observatory, while explaining to the public the characteristic of the big COOKE refractor telescope.

*A NOTE FROM MAURO DOLCI,
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The observation of the exoplanet XO-2b transit on next Feb 27 has a scientific as well as cultural relevance.

Collecting several simultaneous light curves opens indeed the possibility to globally analyze them in order to get a final, high-accuracy transit light curve. This could unveil peculiar features like for example asymmetries of the transit profile, possibly related to evaporation phenomena like those observed in the first discovered transiting exoplanet, HD209458b.

It is important to remark that because of their time-dependence, these phenomena are best studied with this kind of observations, rather than co adding light curves referring to different transits and therefore acquired over a large period.

The National Institute for Astrophysics – Astronomical Observatory of Collurania, Teramo, Italy plans to collect light curve data acquired on next Feb 27 by as many observers as possible, and to perform a accurate analysis of them. This will likely result in a paper to be published on a world-wide recognized astronomy professional journal.

It represents therefore a unique opportunity to provide a scientific acknowledgement for any amateur astronomer who will like to contribute to this data acquisition. The Observatory of Collurania will appreciate the collaboration of observers, across Europe, who will observe the XO-2b transit on next Feb 27 and will make their data available.

IMPORTANT NOTE

You can free download all documents required to observe successfully an extra solar planet transit (included software TRel, prepared by Fabiano Barabucci and Monte d'Aria Astronomical Team), from the following web sites: www.coelum.com and <http://www.crabnebula.it/080227.htm>



Collurania Observatory main building.



II TNT telescope (Teramo Normal Telescope) with a diameter of 72 cm.

INAF - Collurania Astronomical Observatory: a brief overview

The Observatory of Collurania-Teramo, founded by Vincenzo Cerulli in 1892, was left to the Italian State in 1917 and incorporated within the Italian National Institute of Astrophysics (INAF) since 2001. Among the 19 research structures belonging to INAF, OACTe is the one with the smaller research staff. During the last 20 years, under the directorships of Vittorio Castellani (1987-1996) and Amedeo Tornambè (1996-2005), the principal research projects have been related to stellar structure and evolution, with applications to stellar clusters, extragalactic resolved and non-resolved stellar populations, nucleo synthesis, variable stars and Supernovae.

Theoretical as well as observational studies have been carried on in all these research fields. At the same time, technological developments, mainly devoted to the construction of infrared instrumentation, have been started. Important are the collaborations with colleagues working at the neighboring Laboratorio Nazionale del Gran Sasso (LNGS), one of the largest underground laboratories for studies of particle and nuclear physics without accelerators, mainly devoted to the development of the knowledge of fundamental physics in stellar-interior conditions.

The Observatory is located within a park of about 6 ha, hosting red wood trees (Californian sequoia), oak trees, olive trees and many other Mediterranean native plants. The buildings, mostly built between 1890 and 1930 in liberty style, cover an area of about 1200 m². There are three laboratories, namely of electronics, mechanics and optics, and 2 domes hosting small optical telescopes, a 70 cm, used for science and teaching, and a 40 cm, for public outreach. We also share with the Roma Observatory the responsibility of the IR camera (SWIRTCAM) mounted on the AZT-24 telescope at the Campo Imperatore observatory. In addition to the scientific infrastructures, the care and the conservation of the historical and environmental heritage is a duty explicitly assigned by Cerulli to the future management of the Observatory. We mention, in particular, the museum of astronomical instrument and the Cook refractor telescope (aperture=49 cm, focal length=6 m; IXX century).