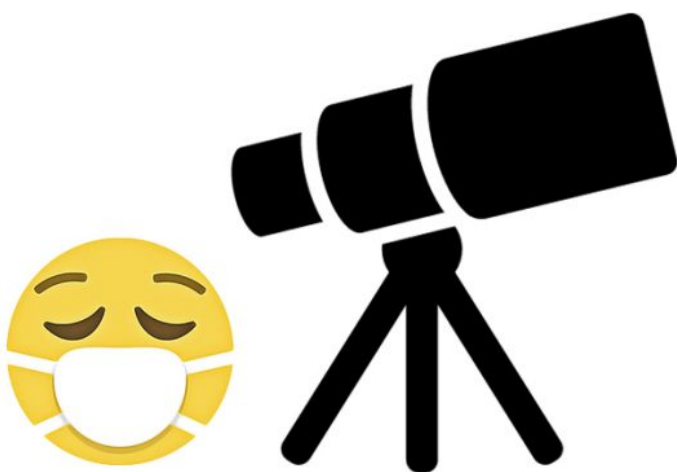


# Suggesting activities for the isolation period

The ongoing pandemic of Covid-19 has postponed or cancelled almost any kind of activity. As a result the majority of people (and not only in Greece) is staying at home and internet is serving as the main means of entertainment, education, and work. Although we certainly held regular meetings in person for both our members and the general public, we have been active in many other ways that can offer getaways during this period.

In this post we have gathered a few items that you may find interesting to check. Our [mission](#) is to popularize Observational Astronomy and the scientific contribution to Astronomy, through a wide range of [activities](#). As we target the Greek community most of our content is, naturally, in Greek. Our English site (still under development) contains information regarding our activities that would be potentially beneficial to the global community, such as our [publications](#).



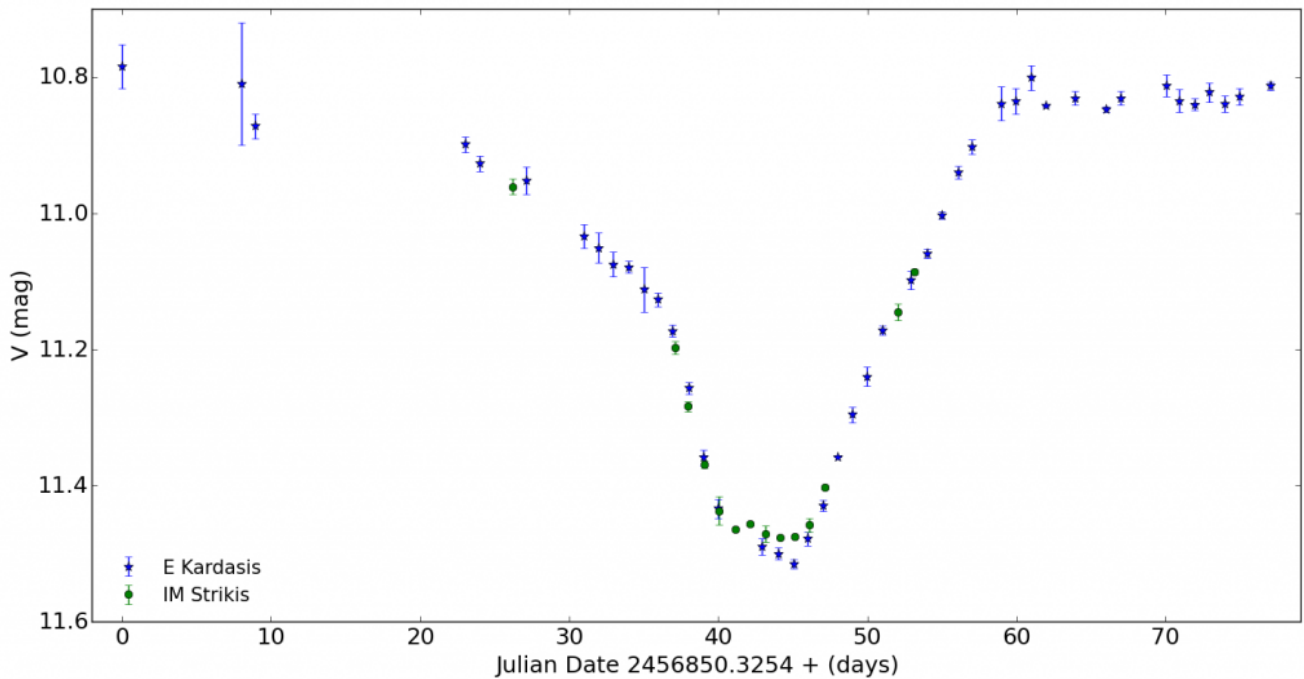
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## Citizen Science projects

We have created a dedicated page to collect and highlight all (possible) [Citizen Science projects](#) related directly to Astronomy. This way you can start contributing to Science from the convenience of your home.

## Observational Projects

We are working on a number of projects, such as exoplanets, variable stars, planets, meteor, etc (see [Research and Working Groups](#) for more details). Currently there are two major ongoing projects: the [EE Cephei eclipse](#), and the latest Venus elongation.



The light curve of EE Cep during the 2014 eclipse.

## YouTube

Although our [YouTube](#)'s content is mainly in Greek (again), you can still find some interesting videos from our activities and some talks in English.

A summary of the Hellenic Amateur Astronomy Association's activities to develop new contributors to the science of Astronomy.

And take a look also at our [videos on our site!](#)

## For our members and more

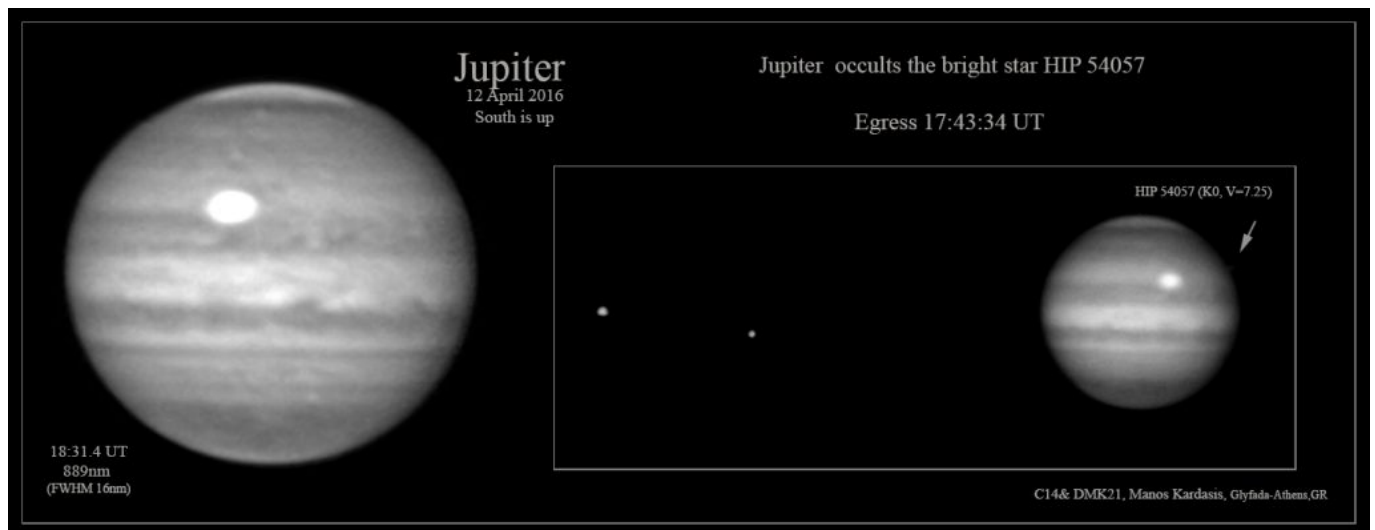
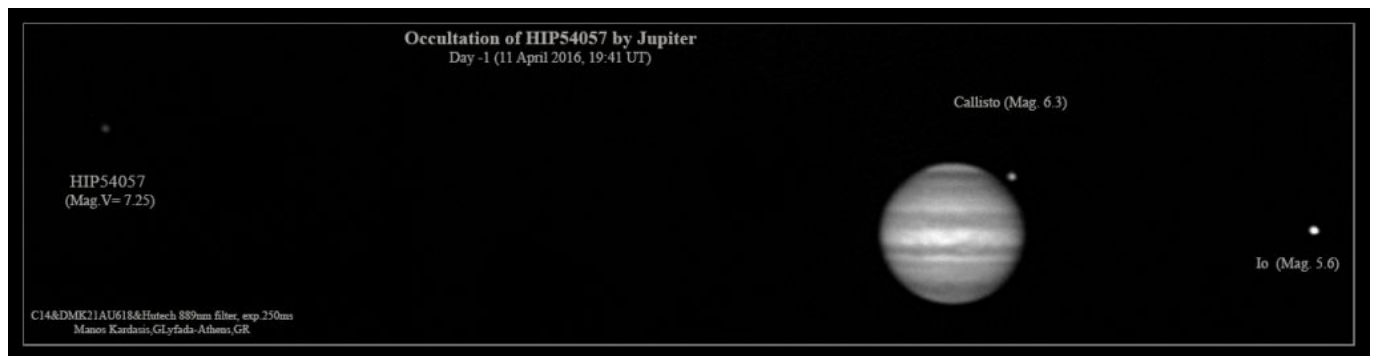
We plan to organize a series of online workshops and talks for our members and the public in general (which will be available

in Greek). The schedule is not set yet, but we will provide an overview of our activities.

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# Stellar occultation of HIP 54057 by Jupiter and Ganymede

Results (15/04/2015):



Announcement (13/12/2015):

The structure and variability of the upper atmospheres of the giant planets may be investigated by occultation techniques [1]. Ground-based photometric monitoring of stellar occultations measure the attenuation of starlight by the

planet's intervening atmosphere due to differential refraction. This requires a sufficiently bright star to act as source and such opportunities are not frequent. A recent example was the occultation of the bright star 45 Capricornii (45 Cap) by the planet Jupiter on the night of 3-4 August, 2009.

On April 12, 2016 the planet Jupiter will occult the bright star HIP 54057 (K0,  $V=7.25$ ) as viewed from areas of Europe, Africa and Asia. The occultation will sample similar planetographic latitudes at Jupiter as the 45 Cap event in 2009, allowing direct comparisons of the planet's atmospheric state between the two epochs. The event has an added significance in view of the expected arrival of the *Juno* spacecraft to the Jovian system. For European observers, ingress occurs during daytime while egress takes place at approx 1745 UT when the sun is below the horizon from E & SE Europe. Due to the star being a K dwarf ( $V-I=1.02$ ), use of a broadband R or I filter (a narrowband filter may be used with large aperture instruments) is recommended to suppress the twilight sky signal and increase the contrast between the limb of Jupiter and the star. Following this event, the star is occulted by the Galilean satellite Ganymede ( $V=5.3$ ) as viewed from certain (tbd) areas of E Asia and the Pacific at approximately 1200 UT the next day, April 13. This secondary event may be useful in refining the ephemeris of the satellite and to constrain the existence of a tenuous atmosphere around it. Dense photometric observations are requested during ingress and egress. A visual summary of the event is provided in the following image (see also ref [6]) prepared by Apostolos Christou.

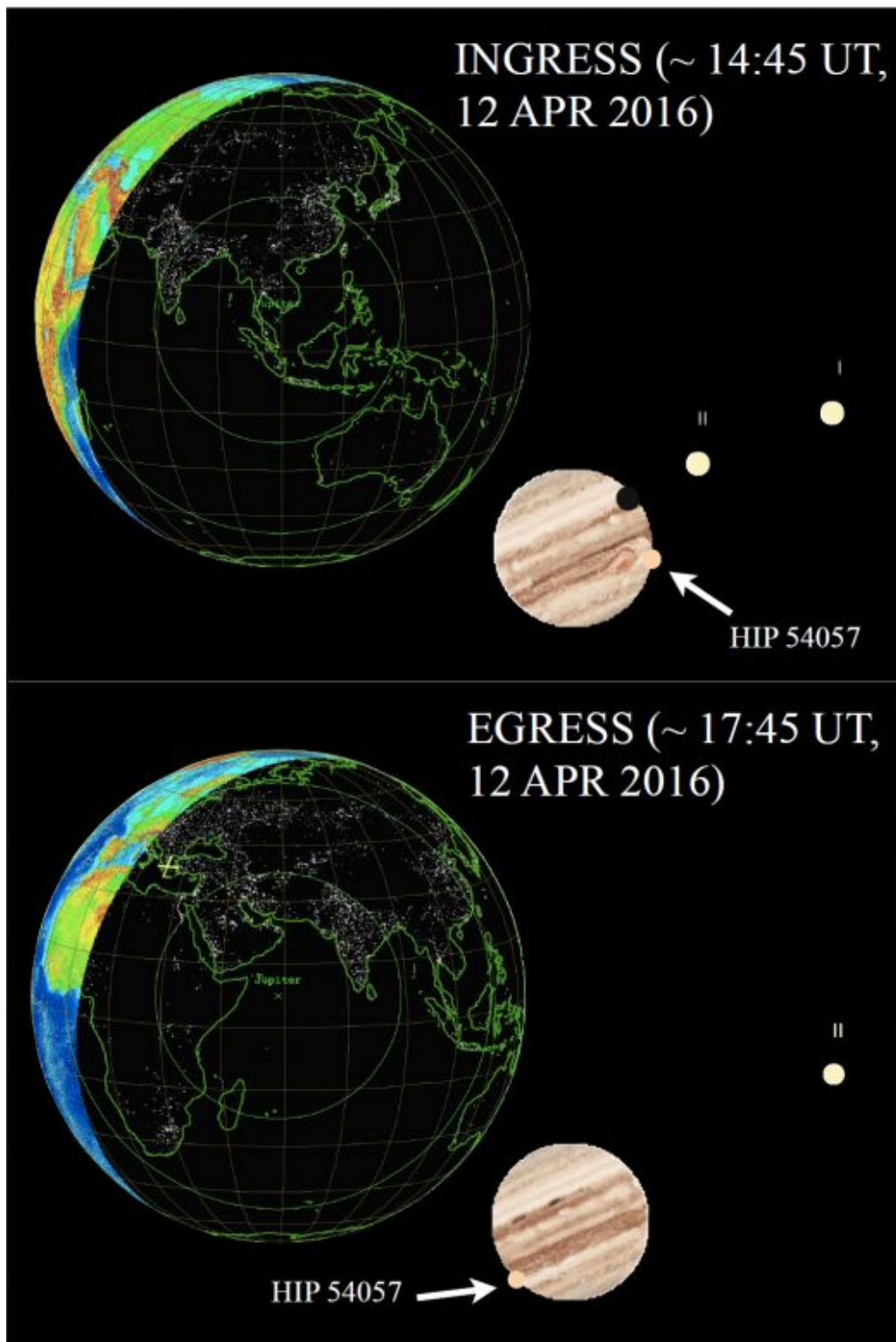
# Stellar Occultation by Jupiter (and satellites) in 2016

## **HIP 54057**

-K0, V=7.25, V-I = 1.02, K=4.9

-12 April 2016 (+ Ganymede occ. 13 April)

-visible from Asia, Oceania, E Africa & SE Europe



An optical summary of the observing conditions of the occultation of HIP 54057 by Jupiter (Credit: A. Christou).

## References:

[1] Kardasis, Emmanuel, Rogers, John H., Orton, Glenn, Delcroix, Marc, Christou, Apostolos, Foulkes, Mike, Yanamandra-Fisher, Padma, Jacquesson, Michel, Maravelias, Grigoris, *'The need for Professional-Amateur collaborations in studies of Jupiter and Saturn'*, Journal of the British Astronomical Association, vol. 126, n. 1, p. 29, (2016)  
<https://britastro.org/sites/default/files/JBAA%20126-1%20Kardasis.pdf>

[2] A. Christou et al., *'The occultation of HIP 107302 by Jupiter'*, *Astronomy & Astrophysics*, 556, A118, (2013)

[3] IOTA European Section, *'Occultation of HIP 107302 by Jupiter on the 3rd of August 2009'*  
<http://www.iota-es.de/jupiter2009/jupiteroccultation.html>

[4] Doug Mink, *Occultations of PPM stars by Jupiter 2000-2050*  
<http://tdc-www.harvard.edu/occultations/jupiter/jupiter.ppm2000.html>

[5] VizieR entry for HIP 54057  
<http://vizier.u-strasbg.fr/viz-bin/VizieR-S?HIP%2054057>

[6] A. Christou, "Stellar Occultation by Jupiter (and satellites) in 2016 – HIP 54057"  
<http://hellas-astro.gr/wp-content/uploads/2018/10/Christou-occultation-HIP54057-Jupiter.pdf>