The April 16th, 2026 UT occultation by Didymos Call for a large campaign in France and Sardinia

Damya Souami^{1*}, Paolo Tanga², Kleomenis Tsiganis³, Alexandros Siakas³, Sotiris Tsavdaridis³ *damya.souami@obspm.fr

The powerful method of stellar occultations is a technique uniquely approaching the performances of planetary space missions [S25]. Although the use of occultations to characterise NEAs [K10] have been expected 15 years ago; it has only become recently feasible thanks to the Gaia DR3 stellar catalogues [G23] which have revolutionised the use of stellar occultations to the point of successfully predicting occultations by sub-km sized NEAs. This began with the occultation by (99 942) Apophis [D23], followed by a series of occultation by the Didymos-Dimorphos system [S23, T24] target of the DART (NASA) and Hera (ESA) planetary defence missions.

We present here the last good occultation opportunity by the Didymos system on April 16th, 2026 UT which will be observable from France (cf. Fig. 1) and Sardinia.

We take advantage of this opportunity to announce the efforts for a large campaign in France for this event.

Figure 1: Predicted path for the April 16th, 2026 UT where the Didymos system will be occulting a 13 G mag. star.



References

[K10] Koschny, D., Drolshagen, J., and Bobrinsky, N.: 2010, Cosmic Research 48, 403. doi:10.1134/S0010952510050059.

- [G23] Gaia Collaboration, Vallenari, A., Brown, A.G.A., Prusti, T., de Bruijne, J.H.J., Arenou, F., et al.: 2023, Astronomy and Astrophysics 674, A1. doi:10.1051/0004-6361/202243940.
- [D23] Desmars, J., Souami, D., Vavilov, D., Hsu, H.M., De Pater, I., and Hestroffer, D.: 2023, Asteroids, Comets, Meteors Conference 2851, 2376.
- [S23] Souami, D.: 2023, Sky and Telescope 145, 8.
- [T24] Tanga, P., Souami, D., Tsiganis, K., Siakas, A., Ferreira, J., Tsardaridis, S., et al.: 2024, *European Planetary Science Congress*, EPSC2024-1019. doi:10.5194/epsc2024-1019.
- [S25] Souami, D., Sfair, R., Renner, S., and El Moutamid, M.: 2025, *Philosophical Transactions of the Royal Society of London Series* A 383, 20240202.

Acknowledgment

We would like to acknowledge the great contribution of the 100+ observers across the globe. Parts of this work was carried out under the ACROSS project which is supported under the OSIP ESA Contract No.4000135299/21/NL/GLC/ov. This work was supported by the Programme National de Planétologie (PNP) of CNRS-INSU co-funded by CNES.

¹LIRA, CNRS UMR-8254, Observatoire de Paris, Meudon, France

²Lagrange, Observatoire de la Côte d'Azur, France

³Aristotle University of Thessaloniki, Greece