

Venus setting captured in snapshots

October 16 2020



A sequence of images taken by one of the monitoring cameras on board the

European-Japanese BepiColombo mission to Mercury, as the spacecraft made a close approach of Venus on 15 October 2020. Credit: ESA/BepiColombo/MTM, CC BY-SA 3.0 IGO

This sequence of 64 images was captured by Monitoring Camera 2 onboard the Mercury Transfer Module from 40 minutes before until 15 minutes after closest approach of 10 720 km from Venus. The images were taken every 52 seconds. The camera provides black-and-white snapshots in 1024 x 1024 pixel resolution.

In these images, Venus appears in the top right behind the Mercury Planetary Orbiter's magnetometer boom and moves across the field of view towards the spacecraft's medium gain antenna. The shape of the terminator—the boundary between the fully illuminated planet (day) and the fully shadowed area (night)—clearly changes, showing that the spacecraft's path curves around from the dayside to the nightside.

The images have been lightly processed to enhance the brightness and contrast. The illuminated disk of Venus is so bright that it is saturated in these images, even using the shortest possible [camera](#) exposure time. At the planet's terminator, some very faint structures are visible, but these appear to be due to ghosting in the camera optics rather than features in the atmosphere of Venus. There is also some horizontal striping in the images due to effects in the electronics.

The gravity assist maneuver was the first at Venus and the second of nine flybys overall, which help steer the spacecraft on course for Mercury. During its seven-year cruise to the smallest and innermost planet of the Solar System, BepiColombo makes one flyby at Earth, two at Venus and six at Mercury to brake against the gravitational pull of the Sun in order to enter orbit around Mercury. BepiColombo, which

comprises ESA's Mercury Planetary Orbiter and the Mercury Magnetospheric Orbiter of the Japan Aerospace Exploration Agency (JAXA), is scheduled to reach its target orbit around the smallest and innermost planet of the Solar System in 2025.

Provided by European Space Agency

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