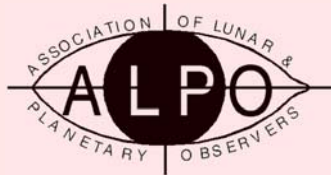


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The 'Seven Sisters' witness an  
'Almost Total' Lunar Eclipse

(See page 3 for details.)

-----, (2020), "ALPO Observations of Venus During the 2014-15 Eastern (Evening) Apparition of Venus." *Journal of the Assn of Lunar and Planetary Observers*, Vol. 62, No. 2: pp. 33-44. <http://alpo-astronomy.org/gallery3/index.php/Publications-Section/ALPO-Journals/DJALPO-Volume-62-2020/JALPO62-2-Spring-2020><http://alpo-astronomy.org/gallery3/index.php/Publications-Section/ALPO-Journals/DJALPO-Volume-62-2020/JALPO62-2-Spring-2020>

-----, (2020), "ALPO Observations of Venus During the 2015-16 Western (Morning) Apparition of Venus." *Journal of the Assn of Lunar and Planetary Observers*, Vol. 62 No. 4: pp. 45-56.

-----, (TBD), "ALPO Observations of Venus during the 2016-17 Eastern (Evening) Apparition of Venus." *Journal of the Assn of Lunar and Planetary Observers*, Vol. 63 No. 3: pp. 44-54.

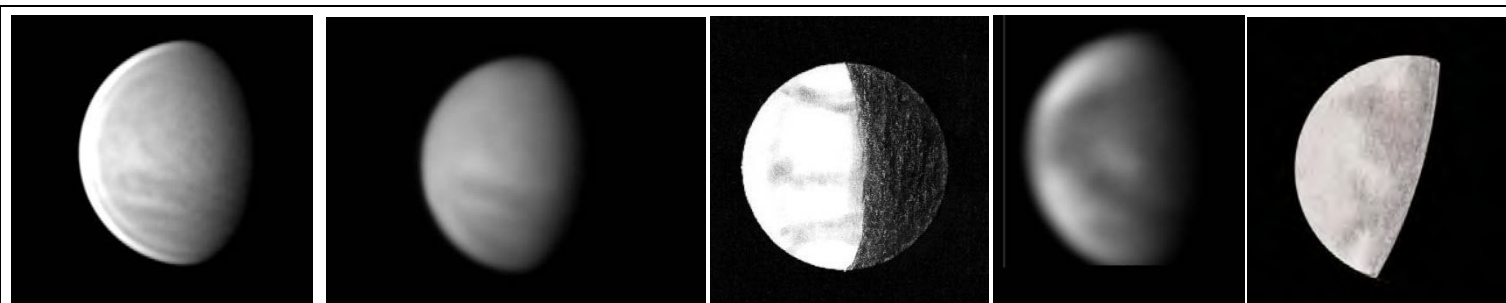
-----, (2021), "ALPO Observations of Venus during the 2017-18 Western (Morning) Apparition of Venus." *Journal of the Assn of Lunar and Planetary Observers*, Vol. 63 No. 4: pp. 52-63.

de Pater, Imke and Lissauer, Jack J., (2013). *Fundamental Planetary Science*. New York: Cambridge University Press. <http://www.amazon.com/Fundamental-Planetary-Science-Chemistry-Habitability/dp/052161855X>

Hunten, D.M., et al, eds. (1983). "Venus." Tucson: University of Arizona Press. <http://www.uapress.arizona.edu/BOOKS/bid222.htm>

United States Naval Observatory. "Astronomical Almanac for the Year 2019." Washington: U.S. Government Printing Office. [https://www.amazon.com/Astronomical-Almanac-Year-Nautical-Office/dp/0707741920/ref=sr\\_1\\_1?dchild=1&keywords=Astronomical+Almanac+for+the+Year+2019&qid=1634410126&s=books&sr=1-1](https://www.amazon.com/Astronomical-Almanac-Year-Nautical-Office/dp/0707741920/ref=sr_1_1?dchild=1&keywords=Astronomical+Almanac+for+the+Year+2019&qid=1634410126&s=books&sr=1-1)

United States Naval Observatory. "Astronomical Almanac for the Year 2020." Washington: U.S. Government Printing Office. [https://www.amazon.com/Astronomical-Almanac-Government-Publishing-Office/dp/0707746000/ref=sr\\_1\\_1?dchild=1&keywords=Astronomical+Almanac+for+the+Year+2020&qid=1634410233&s=books&sr=1-1](https://www.amazon.com/Astronomical-Almanac-Government-Publishing-Office/dp/0707746000/ref=sr_1_1?dchild=1&keywords=Astronomical+Almanac+for+the+Year+2020&qid=1634410233&s=books&sr=1-1)



**Illustration 025.** 2020 January 11 14:51 UT. IR image (884-900nm) by Manos Kardasis. 35.6 cm (14.0 in.) SCT. Seeing (not specified), Transparency (not specified). Phase (k) = 0.794, Apparent Diameter = 13.8". Banded dusky markings as well as V, Y, or  $\psi$  (psi) shaped dusky cloud features are depicted. The bright limb band appears continuous from north to south. South is at the top of the image. This is a near-simultaneous observation with Illustration 026 on the same date by Luigi Morrone.

**Illustration 026.** 2018 October 12 13:40 UT. IR (1000nm) image Luigi Morrone. 35.6 cm (14.0 in.) SCT. Seeing (not specified), Transparency (not specified). Phase (k) = 0.794. Apparent Diameter = 13.8". Banded dusky markings as well as V, Y, or  $\psi$  (psi) shaped dusky cloud features are depicted. The bright limb band appears continuous from north to south. South is at the top of the image. This is a near-simultaneous observation comparable with Illustration 025 on the same date by Manos Kardasis.

**Illustration 027.** 2020 January 20 16:54 UT. Drawing by Detlev Niechoy. 20.3 cm (8.0 in.) SCT at 82X in Integrated Light (no filter). Seeing 2.0, Transparency (not specified). Phase (k) = 0.769, Apparent Diameter = 14.5". banded dusky markings are seen as well as both cusp caps and cusp bands. South is at the top of the drawing. This is a near-simultaneous observation with Illustration 028 on the same date by Manos Kardasis.

**Illustration 028.** 2020 January 20 15:36 UT. UV image (325-385nm) by Manos Kardasis. 35.6 cm (14.0 in.) SCT. Seeing (not specified), Transparency (not specified). Phase (k) = 0.769, Apparent Diameter = 14.5". Banded dusky markings as well as V, Y, or  $\psi$  (psi) shaped dusky cloud features are depicted. The bright limb band appears from north to south. South is at the top of the image. This is a near-simultaneous observation comparable with Illustration 027 on the same date in a drawing by Detlev Niechoy.

**Illustration 029.** 2020 March 14 16:30 UT. Drawing by Michel Deconinck. 25.4 cm (10.0 in.) DAL at 250X with a W47 (violet) filter. Seeing (described as good), Transparency (not specified). Phase (k) = 0.565, Apparent Diameter = 21.4". Amorphous dusky markings are depicted blending with terminator shading. This is a near-simultaneous observation with Illustration 010 on the same date in an image by Christian Viladrich.