

May 18, 2016

Mercury Transit Special Award
of the transit of May 9, 2016

1. Michael A. Hotka
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2. I am a member of the Longmont Astronomical Society.
3. Please send my certificate * Award Pin to my address listed in Item 1.
4. The Big Bear Solar Observatory image was taken at 14:02:54 UT & the Cerro Tololo International Observatory image was taken at 14:02:34 UT.
5. $D_{ms} = 58,453,377$ km. Calculations can be found on page 4 of Mercury Transit Worksheet.
6. I used two images from the GONG network from the internet. I choose Big Bear Solar Observatory & Cerro Tololo Observatory because of a similar longitude & one in each hemisphere.

7. See the Combined image link. The top 'Mercury' is from the Cerro Tololo image & the bottom 'Mercury' is from the Big Bear image.
8. I used Microsoft's Paint program to measure the combined image & measured the Sun's radius as 224.5 pixels.
9. Using MS Paint, I measured the distance between the two 'Mercury's at 4 pixels.
10. I calculated a parallax angle of $.00475^\circ$. See calculation on page 8 of Mercury Transit Worksheet.
11. Using the equation of Rigvirement 5, I calculated the AU as 171,012,357 km. See calculations on page 9 of Mercury Transit Worksheet.

Using the $D_{ES} = D_{MS} + D_{EM}$ equation on Page 5, I calculated an even closer value for the AU as 162,651,206 km. See calculations on page 9 of Mercury Transit Worksheet.