

On the afternoon of June 5, 2012, I was setup to watch the last Transit of Venus in this cycle. I watched NASA's webcast and looked at Venus thru my 8 inch telescope.

I tried to get my 35mm camera working, but it wouldn't focus. I found film last night at WalMart but didn't open it. So I was planning to just sketch what I saw.

At first contact, the Sun was behind clouds here in Broomfield. So I got the first contact from the Mauna Kea, HI webcast which I timed at 4:11:28 PM MDT. The skies are perfectly clear there. Then I ran outside and it was clear for 2nd contact here in Broomfield, which I timed here at 4:22:28 PM. Then I watched the webcast from Hawaii and 2nd contact was later there, at 4:27:49 PM.

I captured pictures from the webcast every 30 minutes or so. Then I tried to just hold the black digital camera over the eyepiece and it worked great. Got lots of pictures. Then with Barbara's help, I did some eyepiece projection pictures which turned out great. It was touch for it was very windy, blowing the projection screen around and also the scope. I had to hold the scope and screen, while Barbara snapped pictures.

All afternoon it clouded up and then cleared. It was very windy. Still took lots of digital pics. Later in the evening, about 7:20 PM, I did some more eyepiece projection on my own. Less wind helped. Noticed a bright ring on the screen. It was a decoration on the camera reflecting the sunlight. Some of my best projection pics have this ring...have to do.

Watched the event till about 7:50 PM, when the Sun set behind the houses to the west. I kept moving my scope to get in the gap between my neighbor's houses to the west. Got some final pics just above the roof line. Watched Venus progress well over ½ way across the Sun. Pretty cool.

Watching the webcast from 8:30 on to get the 3rd and 4th contact times. From the webcast, I observed 3rd contact at 10:28:16 and 4th contact at 10:44:36. These times are MDT local time, so all my times are relative to any internet delay and using the same clock to record my times.

I noticed that it was easier this time to see the contacts than 8 yrs ago. Doing this exercise then prepared me for this transit, which was very beneficial.

I did the Astronomical League's Venus Transit program with my observations. I used the NASA site and did the Parallax #2 calculation, where I put my contact times into the calculator and calculated the AU to be 145×10^6 km. The actual value is 149.5×10^6 km, or an error of 3%. Using the predicted contact times for Hawaii, plugging these into the calculator, I got a value of 147×10^6 km, or about a 1.6% error.

My error was due in large part to the webcast feed from Hawaii disconnected shortly before 3rd contact. By the time I used the backup webcast links to re-establish the image, 3rd contact had already happened by just a bit. I subtracted about 20 seconds from the current time to get a better time for 3rd contact, but I might have been off by as much as a minute.

In 2004, my error was 91% off the actual AU value, so I improved my techniques immensely.