Report on Total Solar Eclipse of April 8, 2024

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I observed the eclipse from 1139 Lower Newton Road, St. Albans City, VT (Lat +44 deg 49'52", Long -73 deg 05'41.16", elev. 365').

I setup five video cameras.

1. A timelapse All-sky cam pointing to the SW, taking an image every 3 sec.
2. A flash spectrum camera using a transmission grating and DSLR (27mm tele, 1/30sec).
3. A 120mm f/5 refractor paired with a mirrorless DSLR (640 iso) to capture Diamond Ring, Baily's Beads, chromosphere, prominences and corona.
4. A wildlife horizon cam pointing east.
5. And finally, a Shadow Band camera pointing to a white sheet on the ground.

The weather conditions were variable with thin cirrus clouds. Clouds appeared to be slightly thicker at C2 than C3. Seeing conditions were good with a stable image. The temperature was observed to drop from 67 deg F to 50 deg F (C1 to C3). Humidity increased from 25% to 50%. Occasional slight breeze before C2, but no wind during totality.

The effect of the eclipse on animals and insect behavior was noted. The sound of Wild turkeys was noticed and they were noted going across a field to roost from 19:17:36 to 19:20:30 UT. Other bird sounds increased near C2 as well as the sounds of frogs and insects. Large flys were noted by mid totality and were a nuisance when packing up after C3. This was my fifth T.S.E. and the first one where my sense of hearing and touch were accentuated. At other eclipses, with crowds of people, I was not able to enjoy nature. I would shut out all my senses but sight. Also, the visual stimulation during totality is overwhelming!

The thin clouds reduced the contrast of the corona and kept exposures short. Although I was limited to the inner corona, coronal loops were imaged in the western and NW part of the corona. One benefit of the clouds was they formed a "screen" to project the moon's shadow on. This was picked up with the All-sky camera near the end of totality. This camera also picked up some subtle pastel sky colors.

With all the eclipses, I observed visually with a 4.25" reflector. For safety, I observe C2 with my naked eye. Also, on three eclipses I saw the flash spectrum visually at C2. As the moon uncovered the largest prominence on the SW limb, the H-a emission increased during totality and made the other Balmer lines prominent near C3. I had planned to increase the exposure to capture the green coronal line and H, K lines, but due to the clouds I changed my mind. Only a trace of the coronal line was seen. The end of totality was observed as always with my RFT. The spectacular view of the corona, chromosphere, and Bailys Beads to me is the most impressive sight seen in a telescope! The moment the first bead appeared I looked away.

This was my second eclipse where I tried to observe the shadow bands. Although I believe I saw them visually immediately after C3, the video is not conclusive. To me, they appeared to be moving in a northerly direction. No doubt the clouds reduced their visibility. The impression I had in 2017 was like a school of fish in a stream.

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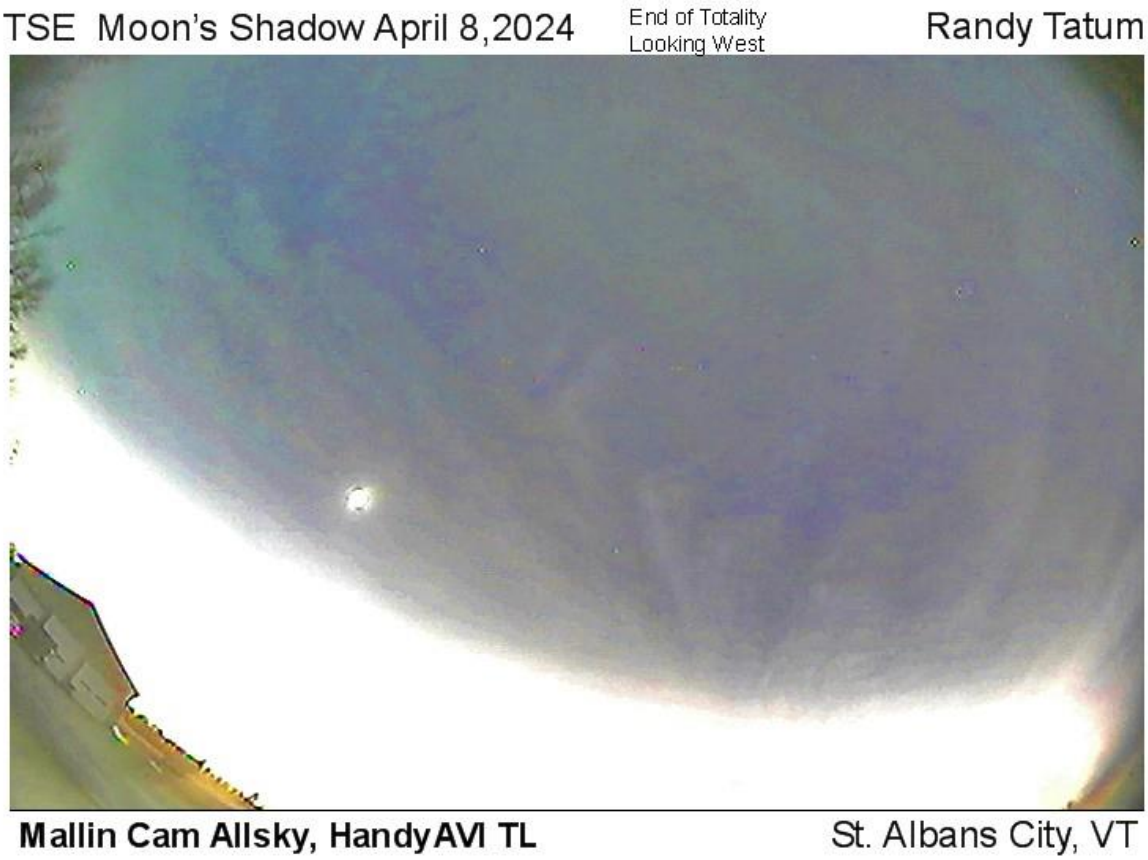

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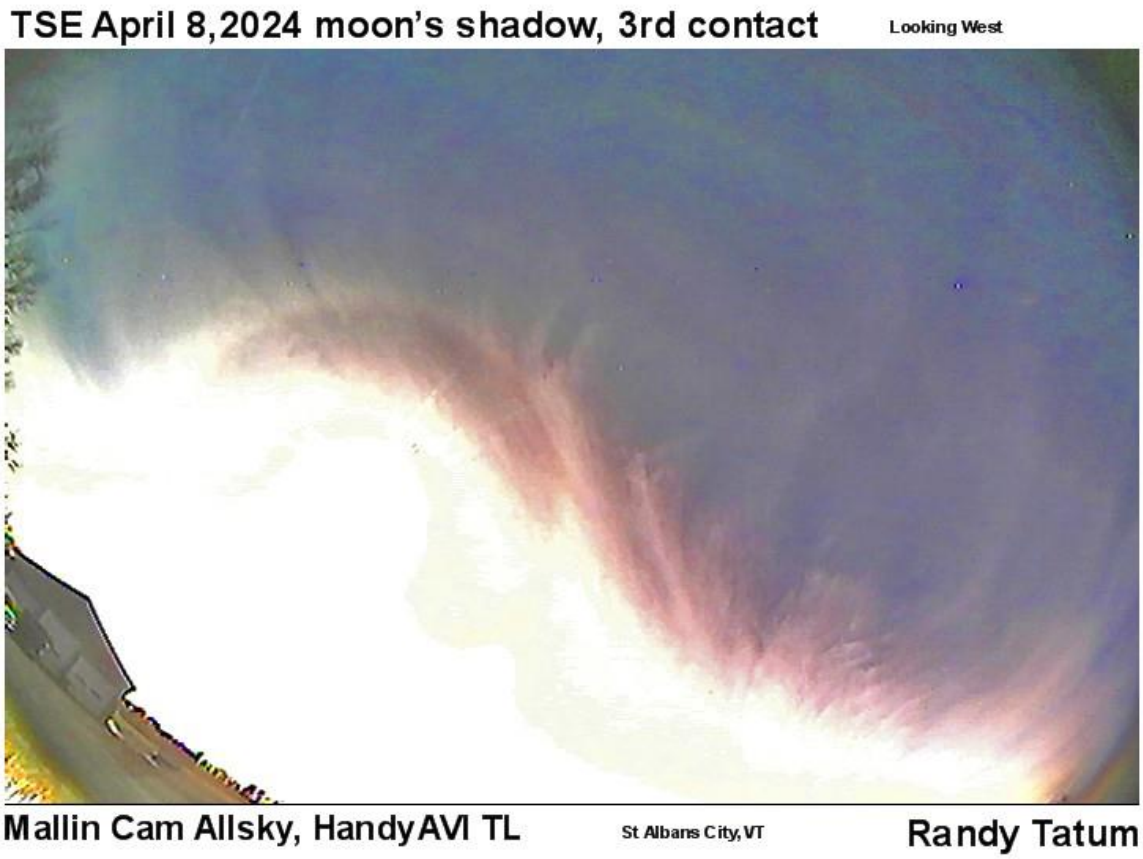

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TSE Totality April 8,2024 Looking West St Albans City,VT

Mallin Cam Allsky, HandyAVI TL Randy Tatum

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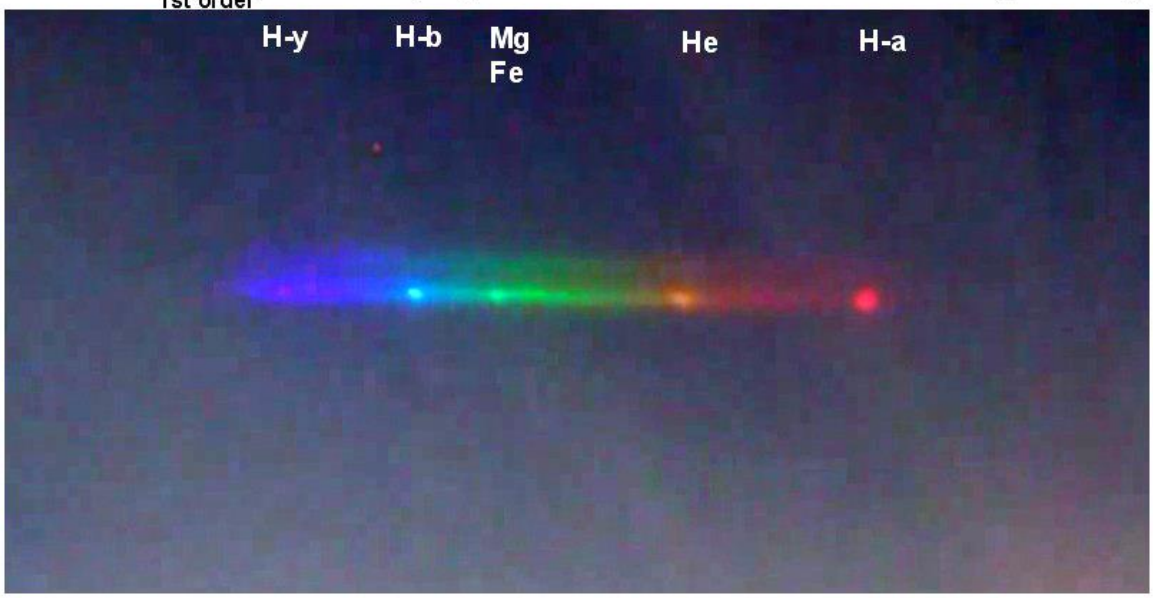
T.S.E. Flash Spectrum 3rd contact April 8,2024 19:29:41 UT thin clouds,good seeing

1st order



Randy Tatum St Albans City, VT Rainbow Symphony Diffraction Grating1000lines/mm, Canon T4i DSLR