

As with the occultation of 28 Sgr by Saturn, it is very likely that changes in seeing contributed to brightness fluctuations, but observers maintained their position that most of the perceived "flare-ups" were not spurious.

From the predictions for areas of Spain and the United Kingdom, most observers expected a total duration of the occultation of perhaps 2 minutes or so. Actual visual accounts suggested times much closer to 5 minutes. For example, D. L. Graham, observing from the United Kingdom, reported immersion at 22:40:21 UT, a central flash at 22:43:01, and emersion (full brightening) at 22:45:45 UT, which translates to 5:20. Figure 3 depicts the events of the occultation as he observed them using his 15.2 cm (6.0 in.) refractor at 286X in fair seeing. Observers in Spain reported an average duration of 5:26 for the entire occultation, with no clear indication of a central flash.

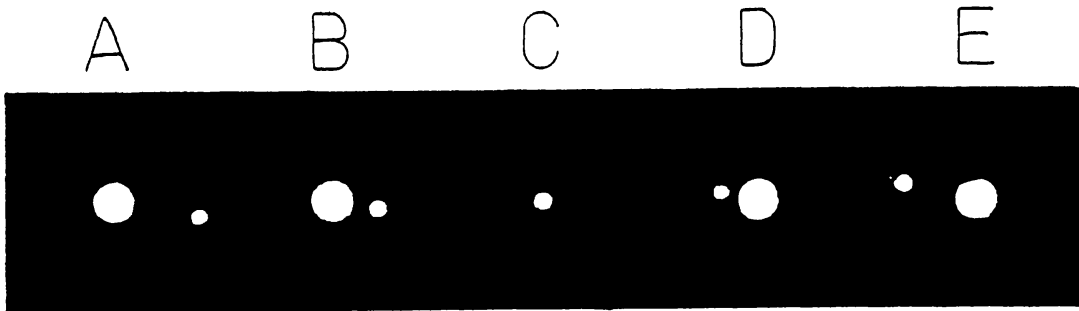


Figure 3. The Occultation of 28 Sgr by Titan 1989 July 3 as Observed by David L. Graham using a 15.2 cm (6.0 in.) Refractor at 286X. S is to the top and W is to the left (sky directions). A = 22:15 UT, B = 22:25 UT, C = 22:40 UT, D = 22:50 UT, E = 23:00 UT.

Differences were reported when comparing the dimming and brightening phases of the occultation. For example, observers were in close agreement that fading lasted as much as 50, while reports showed a duration of no more than 25 for 28 Sgr to regain full brightness during emersion. As noted earlier, a great deal of flickering of the star took place during these moments, and the brightness of Titan during the reported 4 minutes of total obscuration of the star (aside from the central flash) also was not constant.