

A SMALL IMPACT EVENT ON MARS IN 1951

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Introduction: Any meteoroid impacting into the thin atmosphere of Mars penetrates deeper than into the denser Earth atmosphere.

As a rule, meteoroids bigger than 1 meter in size hit the martian surface.

Objects with the size of about 0.1 – 1.0 meters explode high in the martian atmosphere creating intense blast waves and light flashes. Those superbolide events have a luminous efficiency higher than at the Earth [1], [2].

As part of a search in old scientific publications one superbolide-impact event on Mars has come to light.

It was reported by the japanese astronomer Tsuneo Saheki , at Osaka Planetarium. He used a 8-inch reflector , at 400x.

The event occurred on December 8, 1951.

“At 21:00 I saw a sharp , bright, glaring spot suddenly appear on Tithonius Lacus. It was as brilliant as a 6 th. magnitude star – decidedly brighter than the north polar cap – and shone with scintillation for about five minutes. Fading rapidly, by 21:05 it looked like a whitish cloudlet, as large as Tithonius Lacus.

At 21:10 it was barely visible as a very faint and large white spot , and by 21:40 this part of the martian surface had returned to its normal state “ [3].

The four drawings he published are very interesting. The first shows a radiate structure wich may be explained as ballistic ejecta from the impact site.

Careful searches in old journals may offer puzzling new examples of superbolide and impact events on Mars.

References:

[1] Kosarev I.B. et al. (2000): MAPS 35 , supplement, pp. A91.

[2] Adolfsson L.G., Gustafson B.A.S. and Murray C.D. (1996): Icarus 119, pp.144 -152.

[3] Saheki T. (1955) Sky & Telescope 14, pp. 144 -146.