

TABLE 1
Theodolite observations of the mock suns

Time (IST)	Azimuth (<i>H</i>)	Altitude (<i>V</i>)	Remarks
0755	99°·4	21°·9	Centre of the mock sun on the right
0800	75°·0	22°·9	Centre of sun's disc
0823	78°·7	27°·5	Centre of sun's disc
0828	48°·0	27°·9	Centre of mock sun on the left
0843	107°·3	30°·5	Centre of mock sun on the right
0845	77°·4	31°·6	Centre of sun's disc

and 0835 IST. A third sun, faint, long and comparatively thin was seen north of the true sun at about the same distance from it as the other two between 0820 and 0840 IST. By means of the theodolite used for pilot balloon observations, readings of *H* and *V* angles were taken and are given in Table 1.

Only the right side mock sun could be observed in some detail. It appeared to the naked eye to be rectangular in shape, although in the photograph it appears to be circular. It was measuring 2°·8 vertically and about 1°·0 horizontally. It was coloured red nearest to the sun with yellow, green, blue and violet. The yellow portion was very prominent and most extensive. The brightest spot could be seen through the theodolite and was about 1°·0 below the centre of the sun's disc. The horizontal distance from the sun, however, varied from 24°·4 to 29°·9. The bright tail was about 10°·0 long. The mock sun on the left side being less bright could not be accurately spotted through the theodolite except for the bright centre. All the same it had the same sequence of colouring as its companion on the right side and also appeared to be of the same size.

The above observations conform more or less to what is already known about this phenomenon. But a peculiarity was noted.

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MOCK SUNS — AN OBSERVATION

On 8 July 1957 the optical phenomena commonly known as parhelia or mock suns were observed at Jamnagar between 0730 and 0850 IST. Three of them were seen. The one towards the right side from the sun was very clear and brightly coloured with a long white tail towards the right and appeared throughout the period, while that on the left side was less bright with no tail and was visible only for a short time between 0825

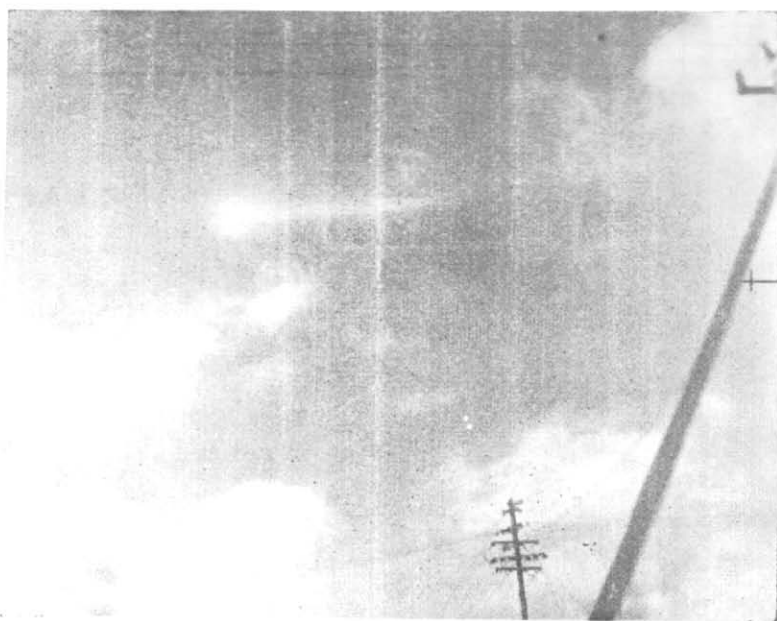


Fig. 1. Mock sun with tail—maximum brightness

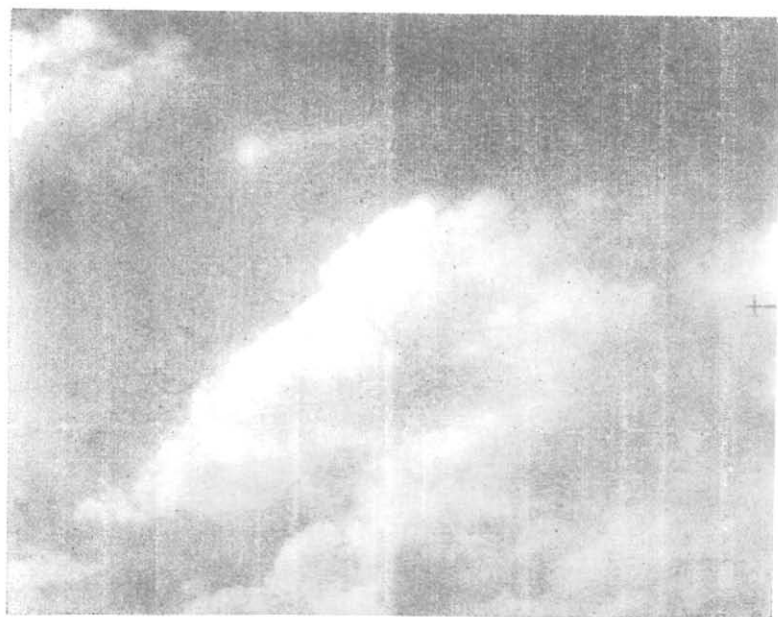


Fig. 2. Mock sun with tail—minimum brightness

LETTERS TO TH

The bright mock sun on the right and its tail showed frequent waxing and waning of intensity of their colour. The two photographs (Figs. 1 and 2) taken are meant to show this variation. This behaviour of the mock sun needs explanation and I hope some astrophysicist will be able to do it.

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