

OCCURRENCE OF ALTOCUMULUS WITH ICE PARTICLES

In *Annales de Geophysique* (Tome 6, No.4, 1949), Mons. Henri Dessens of the Observatory of Puy de Dome in S. France reports mother-of-pearl clouds of *altocumulus lenticularis* at a height of 11,000 metres and attributes them to thin lamellae of ice. The observations were made in September, October and November 1949. The heights were determined from simultaneous photographs taken by Mons. Fournier D'Albe and Mons. Dessens with a base-line of 40 km.

Laboratory experiments by E.E. Fournier D'Albe and others have shown that below 41°C , condensation from water-vapour takes place only in the form of ice-particles. Radiosonde observations made on the 16th October 1949, one of the days on which these clouds were observed, showed that at 11,000 metres, the temperature was -55°C and at 8,900 metres, it was -41°C . The zero isotherm was at 3,400 metres and the stratospheric inversion began at 13,000 metres.

The brightness of the cloud and its variation with the angle of incidence of sunlight support the view that the clouds were composed of lamellae of ice. Vivid interference colours of high order, fourth to sixth, white inside followed by rose or red, green, red etc. were observed. The thickness of the particles was estimated to be a few microns.

Dessens suggests that the experimental study of the intensities and positions of interference fringes in the spectrum of the light reflected from these mother-of-pearl clouds would give decisive results.

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