ON N-PENTANE BUBBLE CHAMBERS

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(presented by P. Bassi)

Both a clean and a dirty n-pentane bubble chamber have been operated at the Istituto di Fisica dell'Università di Padova: the volume of the clean chamber was 450 c.c., and the volume of the dirty chamber 150 c.c.

Some measurements have been carried out concerning their mode of operation and in particular the dependence of sensitive time, bubble density and dimension of bubbles on working temperature and final pressure of expansion. In addition we studied the dependence of the same parameters of the dirty chamber also on recycling time and expansion ratio.

For both chambers the density of the bubbles and their dimensions are roughly independent of the final pressure for a fixed working temperature; it is possible to increase the sensitive time by increasing the final pressure; the foam limit is independent of the final pressure; the bubble density presents a plateau of a few degrees centigrade.

The sensitive time of the dirty chamber increases with recycling time and expansion ratio; density and dimension of bubbles are independent of recycling time and expansion ratio.

We also noticed that in our clean chamber the sensitive time is generally limited by boiling from the walls.

A detailed paper will appear in the August issue of the "Nuovo Cimento".