Lascells Free Experiments - Radioactivity

The Lascells Cloud Chamber is the perfect alternative to existing unreliable and time consuming dry ice variants. The chamber is self-contained and thermoelectrically cooled using a Peltier device.

The chamber requires no dry ice - the only setup necessary is the addition of isopropyl alcohol and connection to a mains socket.

The source supplied with the cloud chamber is a thoriated tungsten welding rod. Thorium is an alpha emitter, and the primary tracks will be due to alpha particles - alpha tracks appear as thick straight lines in the chamber. Beta tracks may also be seen due to the daughter nuclei of previous decays - these appear as thinner tracks.

Equipment

LA60-445 Lascells Cloud Chamber
Isopropyl alcohol (propan-2-ol)
Pipette
Radioactive source (included with Cloud Chamber)

Method

1. Place the source on the cold plate, and fit the chamber and lid to the cold plate.
2. Plug the Cloud Chamber into a mains outlet.
3. Rotate the black lid to expose the filling slots and apply Propan-2-ol (Isopropyl Alcohol) to the felt using a pipette. Ensure the felt is saturated; try to avoid overloading to the extent that alcohol drips into the chamber.
4. Close the lid and switch on the cloud chamber, and illumination LED. Within 2 minutes, a small pool of alcohol will form in the centre of the cold plate, creating an 'active area'.
5. Tracks from the supplied source should be visible within 10 minutes (very warm surroundings may increase this time) and should continue to improve as time goes on.

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