

The way of taking a continuous image of MilkCrown

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A milk crown will be formed if liquid drop collides with a thin fluid layer. A crater will be made if a meteorite collides with the planet surface. Both have the form alike very well, although there is a difference fluid and a solid. Therefore, research of a milk crown has a possibility that scientific knowledge will be acquired not only for fluid dynamics but for earth science .

However, a milk crown is the phenomenon in which a time scale is very short. The time from a liquid drop collides with liquid layer to the crown collapses is about 30ms, therefore photography interval of a digital video camera being a 33ms. Only one or two images can be taken from formation to collapse of a milk crown. For this reason expensive equipments, such as a high-speed camera, are usually used for photography of a milk crown.

Then, using the reproducibility of formation of a milk crown, we went on recording on videotape while liquid drop was dropped one after another, rearranged the images, and obtain a continuous images of the milk crown which alike by high-speed-camera.

In order to the index of the time in the rearrangement, we set a sensor near the falling point of liquid drop and taking the lapsed time after liquid drop passes through in the same frame with the milk crown.

Using image-processing software, the The picture photoed by the digital video camera can easily read a coordinates values. Then, picture analysis can also be performed paying attention to the height and diameter of a crown.