

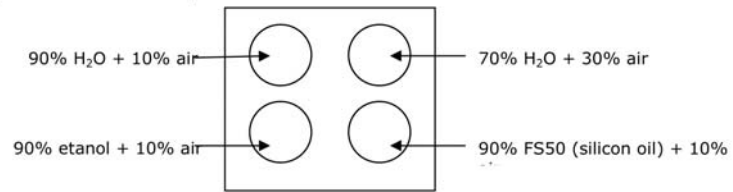
BUBBLES IN DIFFERENT LIQUIDS IN MICROGRAVITY AND OSCILLATING HIPERGRAVITY ENVIRONMENTS

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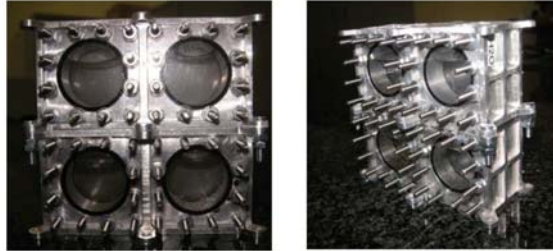
We present experimental results on the behaviour of two-phase fluids (liquid and gas) in microgravity and hipergravity conditions. Experiments were carried out in the ESA's REXUS (Rocket Experiments for University Students) Campaign. The experiment test cell consisted on four small cylindrical cavities containing different liquids and portion gas fractions. Liquids and gas fraction used are shown in Fig. 1. With this distribution, we are able to compare results on the behaviour of bubbles with different volume fraction, viscosity and surface tension. The experimental set-up (Fig. 3) surrounding the test cell consisted on systems for control, power regulation and data acquisition (the camera, mirror and illumination). When REXUS-V went into the microgravity phase, the air of the cavities formed a bubble into the liquid. During the rocket launch the experiment just stayed on stand-by, and after 73 seconds (when the low gravity phase started) the camera started recording. We obtained a video of about 8 minutes, which allows studying the behaviour of the different bubbles in microgravity (Fig. 4) and also in hipergravity, when the changes on the acceleration caused interesting effects on the bubbles.

FIGURES

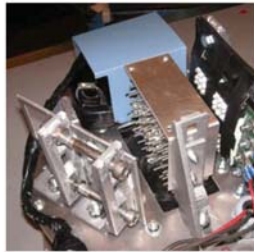
[1] Schematic drawing.



[2] Test Cell different views.



[3] Experimental Set-up.



[4] Bubbles formed in microgravity.

