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COMPARISON OF TWO METHODS FOR GENERATING SMALL BUBBLES IN MICROGRAVITY CONDITIONS

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In this work we compare the performance of two different methods for generating small bubbles in microgravity related conditions. In both cases a previously reported T-junction bubble generator (1mm i.d.) is used to generate two-phase flows. Experiments were performed on ground with air-water flow. The difference between both methods lies in the way in which the T-junction is fed, being the air and water inlets exchanged. In order to determine which method provides a better performance several parameters have been compared, such as bubble generation frequency, gas superficial velocity and bubble size and void fraction distributions. A flow pattern map showing the regimes generated in both configurations is also presented.