

IAF MICROGRAVITY SCIENCES AND PROCESSES SYMPOSIUM (A2)  
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DESIGN, CALIBRATION AND EXPERIMENTATION WITH SEEDS IN A RPM

**Abstract**

The main purpose of our work, is the experimentation with plants. Therefore, assay which are the species that are more likely to adapt in microgravity and develop a study of this specie. Thus, disperse the NASA's experiment of lettuce in microgravity but back on dry land.

The issue was raised with the development of an RPM, which structure allowed the study of others parameters that in the space, it would be more difficult to analyse . As a bigger experimentation space is available, it will enable to introduce different study plant camps. Moreover, find an alternative way to a more economic development of RPM due to the small budget we manage.

The RPM consists on two square frames with a rotation provided by two steppers. That structure will make a simulation of microgravity, because the inertial forces point in either direction. Due to this fact, the plants don't perceive the gravitational gradient, so in every instant appears a different acceleration. Consequently, their capillarity behave in a wrong way. As an innovation, a camera will be placed on the reference frame of the plant to see with more precision the progression of the specie.

This experiment will permit to identify different characteristics present in plants adapted to microgravity. For example, the change in its structure and progression, thus the relation between normal and adapted plants.