

IAF MICROGRAVITY SCIENCES AND PROCESSES SYMPOSIUM (A2)
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Author: Mr. Francisco Cuéllar
Iceland, franciscocuellar1994@gmail.com

COLOR BLINDNESS IN SPACE

Abstract

Will humanity develop color blindness in future generations in space? This is the hypothesis the project deals with.

Due to microgravity, human vision is affected; creating blurred vision and other problems. This is what studies aboard the international space station have shown us. But there is no record or field of study that links microgravity to the appearance of color deficiency. According to the Color Blind Awareness Organization, color blindness could appear from lacerations or damage to certain parts of the eye. In its publication: Acquired Colour Vision Defects, the organization says "Accidents or strokes that damage the retina or affect particular areas of the brain/eye can lead to colour blindness."

On the other hand, several NASA studies aboard the International Space Station like "Fluid Shifts Before, During and After Prolonged Space Flight and Their Association with Intracranial Pressure and Visual Impairment", have shown that fluid shift is a reason why the eye is pressured and damaged during space travels over six months.

The aim of this project is to physicalize this hypothesis and show the issue in a more interactive way. Also, to find a way to run experiments in microgravity conditions and connect with other space agencies to collaborate and expand more into this topic.

The usage of color in space and other planets is vital to survive. If our sight does not function properly, there is a need to find solution, otherwise we will hve to adapt our rutine to this new perception of color for future generationsin space and other planets.