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DESIGN OF A HUD'S COMPONENT TO ESTIMATE THE RELATIVE ORIENTATION AND POSITION OF AN ASTRONAUT WITH RESPECT TO A SPACESHIP, APPLICATING THE TRIANGULATION PRINCIPLE.

Abstract

As a useful tool for astronauts, it is proposed to make a HUD component which indicates the location of targets of interest when performing spacewalks. We define targets of interest as the ISS itself in case of moving away, entry/exit gates or any other that is specified as such. This component is developed based on the use of triangulation and HUD interface design. In this first one, it is proposed to use 3 antennas with known frequencies, intensity and location, which will serve serve to estimate the position and orientation of the astronaut in relation to the ISS or spacecraft. In the second part, this information is displayed in the form of a dot indicating the direction of the target of interest.