



AVA TEAM DEMOSAT

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Abstract

For the DEMOset project the AVA team assembled an octagon design that was made with foam core and styrofoam material. Inside the octagon are 12v heaters that are powered by four 9v batteries to help keep the humidity sensor, pressure sensor, and arduino stay in temperature. The overall mass of the project is less than 600 grams. The goal of the satellite is to be able to find the perfect altitude for aircrafts to be flying in. Yes, 3,000 ft through 40,000 ft is the best altitude for commercial planes to be flying in but the AVA team's project is going to try their best to find the exact altitude that is best for these types of planes. Finding the best altitude that commercial planes should fly in will benefit the aircraft. The humidity, pressure, and altitude is what the AVA teams project will be receiving data on. Although we will not have all the sensors that affect planes, we will use O2 or airspeed sensor data from outside sources to support our discovery since they play a big role with flying planes in high altitudes. Humidity affects aircraft in several ways. Here are some of the main ways humidity can affect aircraft: (Lack of visibility-Aircraft corrosion-Excess weight-Snow and ice). Some of the common ways how pressure affects aircraft: (Air pressure on the wings-The effect of pressure on the engine-Effect of pressure on hydraulic and electrical systems). The goal of the project is to receive useful and accurate data to be able to find an exact altitude level that will benefit commercial planes.