

INTEGRATION OF PAYLOADS AND IMPLEMENTATION OF DATA COMMUNICATION FOR AEROSTAT BASED SURVEILLANCE SYSTEM

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Abstract

Aerostats belong to family of Lighter-Than-Air (LTA) systems, in which the force of buoyancy acting on an envelope filled with LTA gas like Helium; constitute the major component of lift force. Payloads integrated on aerostat, due to height advantage have longer detection ranges and can effectively be used for various surveillance and monitoring applications. The paper details aerostat platform, fabric, mooring system and integration methodology of various types of payloads. It also discusses components of Data Communication System (DCS), survey of various optical communication standards and work carried out for design, development and implementation of Field Programmable Gate Array (FPGA) based transceiver module. This module is used in DCS for transporting payload data from aerostat to Ground Control Station.