

title	BALLOON SAT -- Design, Implementation, and Exploitation of a Low-Altitude, Low-Cost Tethered-Balloon Remote Sensing Station
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additional	
department	Electrical Engineering
proj_desc	A team of four Honors student will design, manufacture, test, implement, and exploit a viable low-cost, low-altitude, helium-filled, tethered-balloon remote sensing station. The station will house a payload of visible, infrared, and thermal imaging sensors (cameras) that will be operated remotely and used to survey the local terrain (Cal Poly campus and vicinity). The collected multispectral data will be digitally exploited to provide surveillance (e.g., traffic condition, security), change detection (e.g., parking lot use status), and classification/ mapping information for our local community.
inter_desc	This is an interdisciplinary system engineering project that requires interaction of the entire team. Each team member is primarily in charge of a sub-system module pertinent to his/her area of expertise. Sub-systems modules include satellite structure and assembly, launch mechanism, sensors and electronics, and data exploitation.
links	
students	4
majors	IME, EE, CSC, PHYS
desired_res	A total of four students will be involved. An IME or ME major for satellite structure and assembly, an Aero major for launch mechanism, an EE or Physics major for sensors and electronics, and a CSC major for data exploitation modules.
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