Von Braun Symposium
Abstract for Poster by Mark Becnel
9/17/2011

| **Question** | **Answer** |
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| Project Title | BALLOONSAT AS A PLATFORM FOR DEPLOYING THE NEUTRON COUNTER |
| Abstract | The BalloonSat program is a NASA Space Grant funded ballooning opportunity for students. The platform is adaptable to host payloads to more than 30 km and a flight time of 2 to 4 hours. The latex sounding balloon can lift approximately 5kg to altitude. At the University of Alabama in Huntsville the BalloonSat platform is used for outreach, research, demonstrations, and to test components of a CubeSat, currently under development. At UAH one BalloonSat is a thermal neutron counter scientific payload. Students have developed the mechanical system to host the counter. The student flight team has the ultimate goal of a flight profile bringing the neutron counter near active lightning storms. Initial flights are necessary to characterize the natural neutron flux profile of the target environment. The BalloonSat may have an advantage in measuring thermal neutrons considering the platform hardware has low mass. The counter will register neutrons from the environment. The measurements will be compared to those made by the Deep Space Test Bed, a 2000kg balloon flown by NASA. Previous research using BalloonSats demonstrate the effectiveness of the platform as a versatile and low cost test bed for atmospheric and high altitude research. I will present the development of the BalloonSat as a test platform and introduce the motivation of the neutron counter research. I will show development and testing of the custom BalloonSat hardware, introduce the initial flights, and present the plans for flights into the target environment. |