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Student Observations of Cosmic Rays using Balloon Platforms[1] T. GREGORY GUZIK, BRAD ELLISON, JIM GIAMMANCO, DOUG GRANGER, DOUG SMITH, MICHAEL STEWART, JOHN P. WEFEL, Louisiana State University — One hundred years ago Victor Hess used a balloon platform to carry simple instrumentation up to an altitude of 17,000 feet and in the process discovered a source of ionizing radiation originating from the Cosmos. Since then undergraduate student access to altitudes exceeding 100,000 feet has become feasible and over the last 15 years a number of programs using lightweight ballooning technology have been implemented to provide the next generation of scientists and engineers with hands-on experience in the development of near-space payloads. Over the years various student payloads weighing between 500 grams and 20 kilograms have been carried aloft by various classes of helium filled balloons to study cosmic ray shower development in the atmosphere, the generation of secondary neutrons, the east-west effect and the light cosmic ray charge spectrum. This presentation will discuss three such student ballooning programs implemented at Louisiana State University as well as the different cosmic ray experiments that students have developed under these programs.

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T. Gregory Guzik
Louisiana State University

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