Abstract Submitted
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High Energy Particle Precipitation and VLF Wave Emissions from the Aurora[1] CHLOE TOVAR, University of Houston, Department of Physics, Houston, TX 77204, UNIVERSITY OF HOUSTON'S "UNDERGRADUATE STUDENT INSTRUMENT PROJECT- HIGH ENERGY PARTICLES" TEAM — The project goal is to measure and find correlations between the high energy particle precipitation and very low frequency (VLF) waves produced by the aurora borealis. The instrumentation to measure such events will be flown as a payload on a weather balloon in Fairbanks, Alaska, with the University of Houstons Undergraduate Student Instrument Project. To measure the particle precipitation, an RPix radiation detector will be utilized. The RPix system will be mainly focused on X-Rays 40 keV to 250 keV, but will also record other particle precipitation. The system will allow the team to discern the particles trajectory with respect to the RPix system as well as their energy. The VLF waves will be measured concurrently to the RPix measurements with a studentfabricated radio receiver. The receiver is expected to record frequencies within the range of 20 Hz to 22 KHz. These events may be correlated to other space weather events through the use of outside data gathered by other scientists and organizations, such as data from the Neil Davis Observatory at the Poker Flat Research Range.

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