

Abstract Submitted  
for the TSS21 Meeting of  
The American Physical Society

**Determining How the High Energy Particle Precipitation and the Very Low Frequency Wave (VLF) Precipitation from the Aurora Borealis Interact With Eachother**<sup>1</sup> CHLOE TOVAR, University of Houston, Department of Physics, Undergraduate Student Instrument Project, "HIGH ENERGY PARTICLES" OF THE UNIVERSITY OF HOUSTON'S "UNDERGRADUATE INSTRUMENT PROJECT" TEAM — The "High Energy Particles" undergraduate research team with the University of Houston is conducting research in hopes of determining explicit correlations between the high energy particle precipitation and the very low frequency (VLF) waves produced by the aurora borealis. Though the aurora produces a wide range of high energy particles, such as electrons with an energy range of 1-100 keV, the specific precipitation that will measure is x-ray radiation. The x-rays themselves have an energy range of 40 keV to 250 keV and are produced through Bremsstrahlung interactions of the electrons with the atmosphere. The reason focus is being given to the x-ray range is that previous research has shown correlation specifically between the x-ray radiation and the VLF waves. The VLF waves are natural emissions from the magnetosphere that is above the aurora. They are driven by plasma instabilities which are one part of space weather.

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Date submitted: 15 Mar 2021

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