

Abstract Submitted
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Studying Atmospheric Gravity Waves Through Airglow¹ ANTHONY MARTINEZ², ITAY PORAT³, TU VAN NGUYEN⁴, University of Houston — This research is conducted as part of the Undergraduate Student Instrumentation Project (USIP) at the University of Houston. The topic of interest is the detection of gravity waves through visible patterns in atmospheric airglow. Previous research has associated gravity waves with weather and geologic events such as tsunamis, thunderstorms, earthquakes and volcanic activity. As gravity waves propagate through the layers of the atmosphere they alter the light emission intensities of airglow molecules such as the hydroxyl radical and atomic oxygen. The team is working to develop an all-sky imager that would detect such fluctuations in airglow intensity. In the coming months we will integrate the appropriate combination of lenses and filters to our sCMOS camera that will enable the imaging of airglow and detection of gravity waves. Analysis of the wave patterns can help understand how natural phenomena creates gravity waves and potentially predict weather and geologic hazards.

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