

## **Data Exploration in Search of Small Pulsations in Solar X-Ray Flares with the *Hinode* X-ray Telescope (XRT)**

*Evan Perez, Crisel Suárez Bustamante, Christopher S. Moore*

Solar flare models are not fully understood and one aspect of solar flares that is currently being researched are Quasi-Periodic Pulsations (QPPs) in the electromagnetic emission. QPPs are poorly constrained and have been observed in most flares on the Sun and other stars, which indicates that they are an important aspect in understanding the physics of solar flares. Additionally, investigating QPPs can aid in detecting and preparing for potential superflares that originate from the Sun. In this research, we analyze a C1.4 flare observed on October 8<sup>th</sup>, 2021, by *Hinode*/X-ray Telescope (XRT). We generated soft x-ray light curves from *Hinode*/XRT images taken at a 10-second cadence and applied techniques such as detrending and derivative to analyze the QPPs in the flare. We apply similar methods to the light curves of *GOES*/XRS. Our results show that during the impulsive phase of the flare, there appears to be a period of 20 - 50 seconds in soft X-ray emission peaks.