

Abstract Submitted
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Modeling of sunspot oscillations observed in AR12470 by ALMA and GST YI CHAI, New Jersey Inst of Tech — Waves and oscillations are considered as an important candidate for solving the coronal heating problem, therefore numerous efforts have been made in both observation and modeling during decades. Using the joint observation data taken on December 17, 2015 from Atacama Large Millimeter/submillimeter Array (ALMA) as well as Goode Solar Telescope (GST) at the Big Bear Solar Observatory, we discovered clear 3-minute oscillations with a stable phase difference between ALMA band 3 and GST H alpha sub bands. We use a dynamic model by Chae and Goode (2015) to obtain a 1-D model of the disturbed chromosphere and input this into the RH code to synthesize the 1-D chromospheric H alpha emission. We report on the comparison of the simulated H-alpha behavior with the observations, which show doppler shifts that broadly agree with the model. We then use the temperature enhancements from the model to compare with the ALMA brightness temperature variations, with promising results. Details and further discussion will be presented in the talk.

Yi Chai
New Jersey Inst of Tech

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