

# Coronal Seismology

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## ABSTRACT

Coronal seismology involves the investigation of magnetohydrodynamic(MHD) wave and oscillatory phenomena that arise in the solar corona. Here some of the dominant waves, oscillations, and modes are intimately investigated in the literature. Analysis of data from the Atmospheric Imaging Assembly (AIA) instrument on the Solar Dynamics Observatory (SDO) is also presented, both as stand-alone research and in the broader context of coronal seismology.

*Subject headings:* Sun: corona - Sun: oscillations - Sun: seismology

## 1. Introduction

Here is some stuff about coronal seismology.

In §2, several major types of waves and oscillatory modes in the solar corona are described, along with recent investigations into each one. §3 includes a description of a research project and its implications for the broader field of coronal seismology in §4. Conclusions and future work are summed up in §5.

## 2. Magnetohydrodynamic Waves

### 2.1. Kink Oscillations

Kink oscillations are commonly associated with coronal loops, and characterize the spacial oscillations that occur over the surface of the loop (Nakariakov & Verwichte (2005)).

Some of the first observations of these spatial variations were carried out by Aschwanden et al. (1999), who utilized some of the first data released from the TRACE mission in order to investigate the oscillations present in coronal loops. Pascoe et al. (2015) investigated the distributions of the damping of kink oscillations.

### 2.2. Sausage Oscillations

## 3. Data

As part of the general topic of coronal seismology, a small research project was carried out as well, continuing over from several semesters previously.

## 4. Analysis

## 5. Conclusion

And we're finished.

## REFERENCES

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- Nakariakov, V. M., & Verwichte, E. 2005, *Living Rev. Solar Phys.*
- Pascoe, D. J., Wright, A. N., De Moortel, I., & Hood, A. W. 2015, *A&A*, 578, A99