

# JIVE AT SUNSPOT SOLAR OBSERVATORY



## Studying More Than Just the Sun!

*This fall, Sunspot Solar Observatory welcomes the Jovian Interiors from Velocimetry Experiment (JIVE) – an innovative research campaign led by New Mexico State University to explore atmospheric dynamics on distant worlds.*



## About the Project

*JIVE aims to peer beneath Jupiter's swirling clouds, using Doppler spectro-imaging to measure subtle shifts in light that reveal the planet's internal structure and motions.*



## Cutting-Edge Technology

*The experiment will utilize the Doppler Spectro-Imager (DSI) – a French-designed instrument developed by the Observatoire de la Côte d'Azur – newly adapted to interface with the Dunn Solar Telescope. Custom enhancements include:*

- A guider/tracker system*
- Fast steering mirror*
- Pupil stabilizer for improved optical precision.*



## Scientific Goals

- Unlock insights into gas giant interiors*
- Advance planetary Doppler imaging techniques*
- Expand our understanding of atmospheric physics beyond Earth*



## This Year's Twist: Saturn at Opposition

*While Jupiter isn't in opposition this year, Saturn is! And it's not just any opposition – it coincides with equinox, when Saturn's ring plane aligns edge-on with the Sun from Earth's perspective. This rare geometry occurs only once every decade and offers a perfect window for velocity mapping of Saturn's disk.*

**September 8th –  
October 3rd**

**Dunn Solar Telescope**

