## Sixteenth Marcel Grossmann Meeting



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Type: Invited talk in the parallel session

## **Cosmology and Stellar Physics with Strong Lensing**

Monday, 5 July 2021 18:00 (25 minutes)

Strongly lensed supernovae (SNe) are emerging as a new probe of cosmology and SN progenitors. The time delays between the multiple images of a lensed SN can be used to determine the Hubble constant (H0) that sets the expansion rate of the Universe. An independent determination of H0 is important to ascertain the possible need of new physics beyond the standard cosmological model, given the tension in current H0 measurements. I would like to present investigations of SN Refsdal, the first strongly lensed SN with multiple spatially-resolved SN images. While strongly lensed SNe are very rare with currently only 2 known systems, future surveys, particularly the Rubin Observatory Legacy Survey of Space and Time, are expected to yield hundreds of such exciting events. I present a new program aimed to find and study lensed SNe for cosmology and stellar physics.

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