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Exploring the Effects of Clump Geometry on Supernova Spectropolarimetry LANCE OSTBY, TABETHA HOLE, Norwich University — Observations have previously detected polarization in all types of supernovae. One possible source for the variation in polarization across spectral lines is an inhomogeneous chemical structure of the ejecta. Our purpose is to investigate the statistical association of host configuration with observational signatures. Since this requires a large set of simulated ejecta, our code uses depolarizing resonant scattering in absorption lines to calculate Stokes spectra for each of thousands of randomly distributed realizations of these inhomogeneities (also called "clumps"). By varying parameters of these clumps, we can predict effects of specific clump geometries and host configurations on observations. Here we present the results of simulations of a newly-implemented shell-like clump geometry and compare them with those of previous simulations. These results, when compared with observations, can provide insight into the structure of chemical inhomogeneities in supernovae.

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