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The Morphology and Uniformity of Circumstellar Shells Surrounding OH/IR Stars DEREK FELLI, VICTOR MIGENES, Brigham Young University — OH/IR stars are asymptotic giant branch stars that have circumstellar envelopes with rich chemistry. These envelopes form from the mass loss process in these stars. Although we understand that this mass loss process drives the formation of proto-planetary nebulae, the uniformity of this process is not well understood. This is because there is not a compilation of multi-wavelength high resolution data on individual OH/IR stars to improve the models. Current scientific models of these processes assume uniform mass loss and spherical symmetry; this is an oversimplification that must be corrected in order to further understand how planetary nebulae achieve bipolar or irregular shapes as well as spherical forms. We are using high resolution optical, infrared and radio observations to image various circumstellar shells to understand the uniformity of the mass loss process. These observations will provide the layout for better models. The models will lead to a better understanding of how late-type stars evolve into planetary nebulae.

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