Microlensing of Broad Absorption Line Quasars: Polarization Variability

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abstract Roughly 10% of all quasars exhibit Broad Absorption Line (BAL) features which appear to arise in material outflowing at high velocity from the active galactic nucleus (AGN). The details of this outflow are, however, very poorly constrained and the particular nature of the BAL material is essentially unknown. Recently, new clues have become available through polarimetric studies which have found that BAL troughs are more polarized than the quasar continuum radiation. To explain these observations, models where the BAL material outflows equatorially across the surface of the dusty torus have been developed. In these models, however, several sources of the BAL polarization are possible. Here, we demonstrate how polarimetric monitoring of gravitationally lensed quasars, such as , during microlensing events can not only distinguish between two currently popular models, but can also provide further insight into the structure at the cores of BAL quasars.