Contribution ID: **31** Type: **not specified**

# Towards more self-consistent modeling of strongly lensed AGN

*Tuesday, 23 July 2024 14:05 (20 minutes)*

Active galactic nuclei (AGN) are among the most interesting objects in the universe and are tools to probe both cosmology and general relativity. They are powered by the accretion of matter onto supermassive black holes and thus emit stochastic signals across the electromagnetic spectrum. With the first light of wide-field surveys such as LSST, variability will naturally be a focus of AGN studies. We present AMOEBA, a new AGN modeling code designed to join together the many AGN components semi-analytically and generically. It is built modularly such that components may be added or removed, and intrinsic variability is followed through each component to build a self-consistent model. Furthermore, we present some features found in strongly lensed AGN caused by microlensing. The microlensing time delay is found to be significant when compared to the time lags assumed from baseline models.

## Funding request, please specify

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**Session Classification:** AGN vabiability