Discovery of Ultra-Massive DAVs with Implications for Core Crystallization

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White dwarf (WD) interiors crystallize below a certain temperature and release latent heat, which causes a delay in the WD cooling process. The temperature of the onset of crystallization scales with mass, so high-mass WDs begin to crystallize at a higher temperature than WDs of lower masses. A majority of WDs are around $0.6M_{\odot}$ and begin crystallization at temperatures below the range where hydrogen-atmosphere (DA) WDs pulsate, so probing the crystalline interiors through asteroseismology is not possible. Using data from *Gaia* and the Zwicky Transient Facility, we have identified about 30 candidate pulsators with masses high enough to be undergoing core crystallization within the pulsational instability strip. Four of these are confirmed pulsators, but the others have little to no photometric or spectroscopic data. This provides us a unique opportunity to study their pulsations through time-series photometry and study the physics of phase separation and chemical redistribution in their cores. Pulsators with suitable properties could allow us to constrain the cooling rate and the crystallized mass fraction of the interior.