DAZd White Dwarfs and the Fate of Planetary Systems

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I will present Spitzer and ground-based observation of five metal polluted white dwarfs with circumstellar debris disks (DAZd). Four of these objects are newly discovered. For two of the white dwarfs, I will present Spitzer 5.5-14 micron spectroscopy, highlighting the 9-11 micron emission feature caused by mixture of amorphous olivine and forsterite. The emitting region is located 0.1-5 $R_{\text{sun}}$ from the WDs. Our measurements support the idea that disruptions of comets or asteroids created the debris disks. Based on the properties of these five stars, I interpret the bulk of the metal-polluted white dwarfs as resulting from planetary system bodies being ground down during the late stages of stellar evolution. If correct, this implies that $\geq 25\%$ of all stars are orbited by terrestrial-type planets, asteroids, or comets.