

PLANETARY DEBRIS AS THE ORIGIN OF METAL-RICH WHITE DWARFS

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I will present a broad overview of the evidence for accretion of planetary material in single, cool and metal-polluted white dwarfs. Over 5 years of Spitzer and ground-based observations have firmly connected closely orbiting, refractory-rich material and the most highly contaminated stars. Recent data suggest that many of these stars may have dust rings that are difficult to detect, or mostly gaseous orbiting debris from which they currently accrete. While cooler and older stars with metals tend not to have infrared excesses, an examination of their Galactic positions and kinematics suggests that the interstellar medium is no longer a viable hypothesis for the metal-rich population at large. In this view, white dwarf atmospheres and compositions are – at least superficially – the reflection of their current and long term interactions with their remnant planetary systems.