

A MODERN LOOK AT THE WHITE DWARF EQUATION OF STATE
AND AT THE BINARY WHITE DWARF POPULATION

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Astrometry from Gaia, deep variability surveys and large-area Galactic spectroscopic surveys are enabling novel probes into white dwarf astrophysics, and in particular are allowing us to tackle anew the search for ultra-compact binaries containing white dwarfs that may be Type Ia supernova progenitors. Specifically, SDSS-V will obtain time-resolved spectroscopy of tens of thousands white dwarfs over the next several years. I will discuss successes and challenges of analyzing large spectroscopic datasets of white dwarfs and the utility of machine-learning techniques for this problem. I will then describe applications of these methods to recent and emerging spectroscopic data. I will present new measurements of the white dwarf equation of state, as well as a sample of newly discovered white dwarf binaries.