Abstract Submitted
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Helium at white dwarf photosphere conditions: experimental line widths and shifts[1] MARC SCHAEUBLE, University of Texas at Austin, ROSS FALCON, THOMAS GOMEZ, Sandia National Laboratories, DON WINGET, MIKE MONTGOMERY, University of Texas at Austin, JIM BAILEY, Sandia National Laboratories — We present preliminary results of an experimental study exploring He line shapes, widths, and shifts photospheric conditions of white dwarf stars. These data were collected as part of the Z Astrophysical Plasma Properties (ZAPP) collaboration on Sandia National Laboratories' Z-machine, the largest x-ray source on earth. Our helium results could have many applications ranging from validating current DB white dwarf atmospheric models to providing accurate He pressure shifts at varying temperatures and density. In a much broader context, these helium data can also be used to guide theoretical developments in new continuum lowering models for two electron atoms.

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