

Abstract for an Invited Paper
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Fusion/Astrophysics Teacher Research Academy¹

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In order to engage California high school science teachers in the area of plasma physics and fusion research, LLNL's Fusion Energy Program has partnered with the UC Davis Edward Teller Education Center, ETEC (<http://etec.ucdavis.edu>), the Stanford University Solar Center (<http://solar-center.stanford.edu>) and LLNL's Science & Technology Education Program, STEP (<http://education.llnl.gov>). A four-level "Fusion & Astrophysics Research Academy" has been designed to give teachers experience in conducting research using spectroscopy with their students. Spectroscopy, and its relationship to atomic physics and electromagnetism, provides for an ideal plasma 'bridge' to the CA Science Education Standards (<http://www.cde.ca.gov/be/st/ss/scphysics.asp>). Teachers attend multiple-day professional development workshops to explore new research activities for use in the high school science classroom. A Level I, 3-day program consists of two days where teachers learn how plasma researchers use spectrometers followed by instructions on how to use a research grade spectrometer for their own investigations. A 3rd day includes touring LLNL's SSPX (<http://www.mfscience.org/sspx/>) facility to see spectrometry being used to measure plasma properties. Spectrometry classroom kits are made available for loaning to participating teachers. Level I workshop results (http://education.llnl.gov/fusion_astro/) will be presented along with plans being developed for Level II (one week advanced SKA's), Level III (pre-internship), and Level IV (summer internship) research academies.

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