

Abstract Submitted
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Emission Lines of Fe XI - XIII in the Extreme Ultraviolet Region JAAN LEPSON, SSL, PETER BEIERSDORFER, DUANE LIEDAHL, LLNL, PRIYA DESAI, SSL, NANCY BRICKHOUSE, ANDREA DUPREE, CfA, STEVEN KAHN, SLAC & Stanford — Iron is one of the most abundant heavy elements in extreme ultraviolet spectra of astrophysical and laboratory plasmas, and its various ions radiate profusely in the extreme ultraviolet (EUV) wavelength band. Iron emission in the EUV provides important diagnostic tools for such properties as plasma temperature and density, and perhaps even magnetic field strength. Despite its importance to astrophysics and magnetic fusion, knowledge of the EUV spectrum of iron is incomplete. Identification of iron emission lines is hampered by the paucity of accurate laboratory measurements and the uncertainty of even the best atomic models. As part of a project to measure and compile emission line data in the EUV, we present here spectra and lines of Fe XI - XIII recorded on the Livermore EBIT-II electron beam ion trap in the 50 - 120 Å region. We measured line positions to 0.02 Å and relative intensities with an accuracy of one part in twenty. Many new lines are identified and added to the available databases. Part of this work was performed under the auspices of the U S Department of Energy by Lawrence Livermore National Laboratory under Contract DE-AC52-07NA27344 and was supported by NASA's Astronomy and Physics Research and Analysis Program under Contract NNH07AF811.

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