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Constructions of non-equilibrium plasma model and applications to LHD/Solar plasmas NORIMASA YAMAMOTO, Osaka University, TAKAKO KATO, KUNINORI SATO, HISAMICHI FUNABA, CHIHIRO SUZUKI, NAOKI TAMURA, DAIJI KATO, HIROYUKI SAKAUE, National Institute for Fusion Science, NOBUYUKI NAKAMURA, University of Electro-Communications, PETER BEIERSDORFER, Lawrence Livermore National Laboratory, Livermore, JAAN LEPSON, University of California, HIROAKI NISHIMURA, Osaka University, TETSUYA WATANABE, National Astronomical Observatory of Japan — HINODE satellite has high precise and high resolution EUV spectrometer, which is called EIS. Two bands of 170-210Å and 250-290Å are measured by EIS and measurements of many iron lines from Fe VIII to Fe XXIV are expected. In order to analysis of spectral lines from solar plasmas, which is non-equilibrium plasma, the development of non-equilibrium plasma model is necessary. In this paper, our constructed collisional-radiative model to assume quasi-steady states is applied to laboratory plasmas of LHD (Large Helical Device) and EBIT (Electron Beam Ion Trap). Then it's applied to solar plasma by EIS/HINODE. Particularly, line intensities of Fe XIII (196-210Å), which have strong density dependence, are studied about temperature/density dependence and atomic data sets dependence.

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