Abstract Submitted
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Ab Initio f **values for Fe II** $J = 9/2 \rightarrow 9/2^o$ **transitions**[1] DONALD BECK, Michigan Technological University — Relativistic configuration interaction f values have been obtained for 264 transitions between the lowest 12 $J = 9/2$ and the 22 $J = 9/2^o$ levels. Length and velocity gauges agree to 3.8% for in-shell transitions and 10.0% for shell jump transitions. Two $J = 9/2^o$ levels are so nearly degenerate that it was necessary to introduce a semi-empirical correction to produce the correct level ordering. The results are in overall good agreement with the semi-empirical results of Kurucz [2] and Raassen [3]. An efficient method of including magnetic Breit effects in the energy matrix is presented.

[1]D. R. Beck, Physica Scripta (2005), in press. Work supported by theDivision of Chemical Sciences, U. S. Department of Energy.
[2]R. L. Kurucz, http://kurucz.harvard.edu/atoms/2601/
[3]A. J. J. Raasen, ftp://ftp.wins.uva.nl/pub/orth/iron/FeII.E1 (1999)

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