

Abstract Submitted
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Configuration interaction calculation of allowed and forbidden transitions in Fe II¹ ALAN HIBBERT, NARAYAN DEB, Queen's University Belfast, UK — Earlier configuration interaction calculations of Fe II E1 transitions by our group (eg, [1]) have been extended in the number of symmetries incorporated as well as the number of configurations used, and also to forbidden (E2 and M1) lines. We have investigated how the results depend on the choice of the radial functions, particularly of the d-functions. In the poster we will present a small selection of our results, focusing on transitions which relate to astrophysical observations and laboratory measurements. The work has been completed using the general atomic structure package CIV3 [2]. The A-values of many of the transitions are substantially influenced by CI mixing in the wave functions of one or both of the states of the transition. We will discuss how this mixing can be determined as accurately as possible.

[1] G. Corrége and A. Hibbert, ApJ, **627**, L157 (2005); ApJ, **636**, 1166 (2006).

[2] A. Hibbert, Comp. Phys. Comm., **9** 141 (1975); R.Glass and A. Hibbert, Comp. Phys. Comm., **16** 19 (1978).

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Alan Hibbert
Queen's University Belfast, UK

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