

## Introduction

These tables were generated using **SCHUR** in response to a request by Prof. B. R. Judd who was interested in questions relating to the relevance of the exceptional group  $F_4$  to the interpretation of the mathematical properties of matrix elements in the  $f^N$  atomic shell<sup>1</sup>.

1. B. R. Judd, Applicability of the Lie group  $F_4$  to the atomic  $f$  shell, J. Phys. B: At. Mol. Opt. Phys. **28** L203-207 (1995).