Abstract Submitted
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Relativistic distorted-wave collision strengths for the 16 Δn = 0 optically-allowed transitions with n = 2[1] HONG LIN ZHANG, CHRISTOPHER J. FONTES, Los Alamos National Lab — Relativistic distorted-wave collision strengths have been calculated for the 16 $\Delta n = 0$ optically-allowed transitions with $n = 2$ in the 67 Be-like ions with nuclear charge number Z in the range $26 \leq Z \leq 92$. The calculations were made for the four final, or scattered, electron energies $E' =$ 0.20, 0.42, 0.80, and 1.40, where E' is in units of $Z_{\rm eff}^2$ Ry with $Z_{\rm eff} = Z - 2.5$. In the present calculations we used an improved "top-up" method, the relativistic Kummer transformation (Fontes & Zhang, Phys. Rev. A **76**, 040703(R) (2007)), to obtain high partial-wave contributions, in contrast to the semi- relativistic Coulomb-Bethe approximation used by Zhang & Sampson (ADNDT **52**, 143 (1992)). More extensive collision strengths for Be-like ions were provided in this previous publication, including data for all of the possible 45 transitions, for six scattered energies and in 85 ions with Z in the range $8 \leq Z \leq 92$. The collision strengths covered in the present work should be more accurate and are presented as replacements for the corresponding results in Zhang & Sampson (1992).

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