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$B^{3+}(2p^2)^1D$ doubly-excited state formed in energetic collisions of $B^{4+} + H_2$ by resonant transfer and excitation¹

T.J.M. ZOUROS, E.P. BENIS, Univ. of Crete, Heraklion, Crete, Greece & J.R. Macdonald Lab, Kansas State University, H. ALIABADI, M. ZAMKOV, P. RICHARD, J.R. Macdonald Lab, Kansas State University — Absolute double differential cross section measurements on the formation of the helium-like doubly-excited state of $B^{3+}(2p^2)^1D$ are reported. The state is populated via the resonant electron transfer and excitation process in collisions of (3.5 - 8)MeV $B^{4+} + H_2$. A zero-degree high efficiency hemispherical spectrograph ² was used to measure the Auger decay of the doubly-excited states to the $B^{4+}(1s)$ ground state. The measured Auger decay rates are compared to the theoretical predictions.

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²E.P. Benis, T.J.M. Zouros and P. Richard, Nucl. Instum. & Meth. Phys. Res. B, 154 (1999) 276-280

- Prefer Oral Session
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P. Richard
richard@phys.ksu.edu
J.R. Macdonald Lab
Kansas State University

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