## Title

Electron-Loss Collisions of Highly-Stripped Niobium Ions With Hydrogen and Argon



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Abstract

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# ELECTRON-LOSS COLLISIONS OF HIGHLY-STRIPPED NIOBIUM IONS WITH HYDROGEN AND ARGON

K. H. Berkner, W. G. Graham, R. V. Pyle, A. S. Schlachter, and J. W. Stearns

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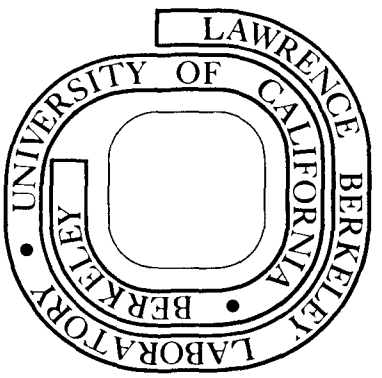

## DISCLAIMER

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Electron-Loss Collisions of Highly-Stripped Niobium Ions with Hydrogen and Argon.* K.H. BERKNER, W.G. GRAHAM, R.V. PYLE, A.S. SCHLACHTER, and J.W. STEARNS, Lawrence Berkeley Laboratory, Univ. of Calif., Berkeley, CA 94720--We have measured the cross sections for net impact ionization of $H_2$ and Ar targets by 3.5 MeV/A $Nb^{+q}$ ions and for electron capture by the $Nb^{+q}$ ions. Niobium ions with charge states q ranging from 23 to 36 were used in these experiments. The impact-ionization cross sections are very large, e.g., $1.0 \times 10^{-14}$ $cm^2$ for $Nb^{+34}$ in $H_2$, and $3.4 \times 10^{-14}$ for $Nb^{+34}$ in Ar. These results extend experimental verification of our previously determined scaling rule[1] for electron loss from H to ions with charge states as large as +36.

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[1]Olson, Berkner, Graham, Pyle, Schlachter, and Stearns, Phys. Rev. Letters 41, 163 (1978).

Submitted by

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