Fluorescence Polarization of Hydrogen and Deuterium Molecules Excited by Polarized Electron Impact\footnote{Support by NSF Grant PHY-0653379} J.W. MASEBERG, T.J. GAY, University of Nebraska — We report relative Stokes parameters for molecular and atomic transitions in H\textsubscript{2} and D\textsubscript{2} excited by spin-polarized electrons. Specifically, rotationally isolated transitions in the \textit{d} $^3\Pi_u\rightarrow a\ ^3\Sigma^+\ 1s\sigma$ band have been studied as well as Balmer-$\alpha$ excited fragments for both H and D. Values of the circular polarization fraction normalized to the incident electron spin polarization, $P_3/P_e$, for atomic emission (656 nm) from H and D are nearly equivalent ($\sim$0.08 near threshold), and higher values are found for the case of molecular fluorescence ($\sim$0.14 for H\textsubscript{2}).

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