

Abstract Submitted  
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**Fluorescence Polarization of Helium Negative Ion Resonances  
Excited by Polarized Electron Impact**<sup>1</sup> J.W. MASEBERG, T.J. GAY, Uni-  
versity of Nebraska — The helium triply-excited negative ion  $2s^22p\ ^2P$  and  $2s2p^2\ ^2D$   
resonance states have been previously investigated by numerous researchers. Ob-  
servation of the resonant channels in the He  $3\ ^3D \rightarrow 2\ ^3P$  587.5 nm transition is  
possible because of cascade contributions. Previous measurements of the intensity  
and linear polarization fraction of this line due to excitation by unpolarized elec-  
trons are available [1-3]. We report the integrated Stokes parameters  $P_1$ ,  $P_2$ , and  
 $P_3$  for excitation by spin-polarized electrons. Our null result for  $P_2$  indicates that  
even though these resonances are long lived ( $\sim 200$  ps), magnetic forces acting on  
the temporarily-captured electron are negligible. Values of  $P_3$  show no statistically-  
significant variation from their asymptotic non-resonant levels. [1] A. Defrance, J.  
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