Abstract Submitted
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**Elastic scattering of electrons and positrons by Pb atoms**[1] BIDHAN SAHA, Department of Physics, Florida A&M University, Tallahassee, FL-32307., A. K. BASAK, M. A. UDDIN, A. K. F. HAQUE, M. I. HOSSAIN, M. M. HAQUE, M. A. R. PATOARY, Department of Physics, Rajshahi University, Rajshahi-6205, Bangladesh, M. MAAZA, University of South Africa, Pretoria, South Africa — The elastic scattering of $e^{\pm}$ - Pb atoms is reported for 10 eV $\leq$E $\leq$ 1 keV**.** A complex optical potential embodying the static, exchange, polarization and absorption potentials is used to solve Dirac equations [1] by partial wave analysis. For electron case the absorption strength ($W_{abs}$) plays an important role; it increases monotonically from E>30 eV but its low energy peak may be due to dispersion effect at the inelastic threshold. As compared to other theoretical values [2] our results show good agreement with available experimental cross sections [3]. [1] P.A.M. Dirac, *Principles of Quantum Mechanics*. International Series of Monographs on Physics (4th ed.), Oxford University Press. p. 255. (1958).. [2] P. Kumar, A. K. Jain, A. N. Tripathi, and S. N. Nahar, Phys. Rev. A 49, 899 (1994). [3] S. Tosic, M. S. Rabasovic, D. Sevic, V. Pejcev, D. M. Filipovic, L. Sharma, A. N. Tripathi, R. Srivastava, and B. P. Marinkovic, Phys. Rev. A77, 012725 (2008).

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