A Universal model for electron impact ionization of K, L and M-shells. FAZLEY BARY MALIK, Southern Illinois University Carbondale, A.K.F. HAQUE, M.A. UDDIN, A.K. BASAK, Rajshahi University, B.C. SAHA, Florida A&M University, K.R. KARIM, Illinois State University — A modified version of the original Kolbenstvedt model, which has its roots in quantum electrodynamical description of electron-electron scattering, will be presented. This modified model describes reasonably well cross sections of K-shell ionization of H, He, Li, C, N, O, Mg, Si, P and S, L-shell ionization of Ag, Sn, Ba, Ho, Ta, Au, Pb, Bi and U, M-shell ionization of Pb, Bi and U, from threshold to a few GeV incident energy. The same model with slight modification to account for the ionic charge is also applicable to ionic targets such as Ne^{8+}, Mo^{41+}, U^{82+} from threshold to a few MeV incident energy. Experimentally observed increase of the cross section at high energies seems to be a consequence of the Møller interaction between two interacting electrons.

Fazley Bary Malik
Southern Illinois University Carbondale