KAMATA-NISHIMURA CONSTANTS OF MOLIÈRE THEORY CHARACTERIZING SUBSTANCES

Takao Nakatsuka

Okayama Shoka University, Tsushima-Kyomachi, Okayama 700-8601, Japan. nakatuka@osu.ac.jp/Fax: +81-86-255-6947

Under the Kamata-Nishimura formulation of Molière theory, properties of substance were all reflected in two constants, Ω and K. It made the theory very simple and easy to apply to other problems. In the original formulation, the theory was described under the relativistic condition. We have devised the theory also valuable under the moderate energy condition with ionization and defined the constants valid in both the traditional condition and the new one. Evaluations are made consistent with the values tabulated by the Particle Data Group. Dependences on representative screening models are also discussed.