Richard N. Porter

Professor of Chemistry
1970-1997

Theoretical Chemical Physicist

\[ a_\alpha(p) \rho(T) = \Phi_\alpha(p,T) \rho(T) a_\alpha(p) \]


Professor Porter analyzed classical trajectories to calculate the cross sections for atomic exchange reactions when molecules collide. He devised a widely used semi-empirical potential-energy surface for the collision complex H$_3$. His calculation of the rotation-vibration spectrum of the stable molecular ion H$_3^+$ assisted in its discovery in the atmosphere of Jupiter. His textbook *Atoms and Molecules* (with M. Karplus), went through three editions from 1978-1992, and was the leading quantum chemistry textbook of its generation.