Richard N. Porter

Professor of Chemistry
1970-1997

Theoretical Chemical Physicist

$$a_\alpha(p)\,\rho(T) = \Phi_\alpha(p,T)\,\rho(T)\,a_\alpha(p)$$

The Quantum Field Theory of the Ensemble Operator, *American Institute of Physics Conference Proceedings,* **1102**, 219 (2009).

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.