# CURVILINEAR INTERNAL VALENCE COORDINATE HAMILTONIAN FOR AMMONIA

JANNE PESONEN, ANDREA MIANI, *Laboratory of Physical Chemistry, P.O. Box 55 (A. I. Virtasen aukio 1), FIN-00014 University of Helsinki, Finland*; LAURI HALONEN, *JILA, University of Colorado, Campus Box 440, Boulder, Colorado 80309*.

A new six-dimensional vibrational Hamiltonian based on curvilinear internal valence coordinates is presented for ammonia. The square of the inversion coordinate adopted is similar to the often used out-of-plane bending coordinate for planar $XY_3$-type molecules. Conventional symmetrized internal coordinates are employed for the other vibrational degrees of freedom. The exact kinetic energy operator is given in closed form.