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**Object Oriented Approach to the Algebraic Theory of Molecules**

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Lie algebra is used to generate the quantum states of a molecule. A molecular Hamiltonian class is constructed by  $u(2)$  algebra class instances. Then a general total molecular state class is built with the Hamiltonian instances. Methods are used in the construction of normal and local modes of a given molecule with direct products of single algebra instances. Other methods are then used to raise and lower the stretching, rotational and bending quantum states of molecular instances. A clear example is then calculated for a tetrahedral molecule from the ground state gaining quanta in different forms.

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