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### **Using near degeneracy of molecular levels for fundamental physics**

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It is well known that close levels of opposite parity in molecules are very useful in the studies of the P-odd and P,T-odd interactions. Recent advances in experimental techniques allow to improve current limits on the P,T-odd nuclear forces in the experiments with paramagnetic molecules. Similarly, low frequency transitions can be very sensitive to the variation of the fundamental constants. In molecules we have both an accidental quasi-degeneracy of the levels of different nature and systematic symmetry induced degeneracies. The former are caused by the near cancellations of the different terms in the molecular Hamiltonian due to the fine-tuning. Enhancement in sensitivity happens if these terms of the Hamiltonian have different scalings with the fundamental constants. In linear molecules we have degenerate electronic states with non-zero projection of the electronic angular momentum  $\Omega$ . The non-adiabatic interactions lead to the  $\Omega$ -doubling, which depends on the high powers of the fundamental constants. In polyatomic molecules we have level splittings caused by the tunneling between equivalent potential minima. These splittings are very sensitive to the electron-to-proton mass ratio. When tunneling frequencies are close to the frequencies of the rotational transitions we can have accidental degeneracies and additional enhancement of sensitivity. This happens for several molecules, which are observed in interstellar medium.