

Selected Abstracts from Other Physical Review Journals

Abstracts of papers that are published in other Physical Review journals and may be of interest to Physical Review E readers are printed below.

Theoretical determination of parity-violating vibrational frequency differences between the enantiomers of the CHFCIBr molecule

Rosario G. Viglione and Riccardo Zanasi *Dipartimento di Chimica, Università degli Studi di Salerno, via S. Allende, 84081 Baronissi (SA), Italy* Paolo Lazzeretti and Andrea Ligabue *Dipartimento di Chimica, Università degli Studi, via G. Campi 183, 41100 Modena, Italy* (Received 8 November 1999; revised manuscript received 24 February 2000; published 18 October 2000)

A coupled Hartree-Fock procedure has been employed to estimate the frequency shift in the infrared spectra of the *S* and *R* enantiomers of the CHFCIBr molecule due to the parity-violating electroweak interaction. The calculations indicate that a resolving power $\nu/\Delta\nu \approx 1 \times 10^{16}$, i.e., three orders of magnitude larger than that obtained in recent experiments, would be necessary to detect the parity-violating effects. The largest frequency shift was found

for C-Cl stretching. [Phys. Rev. A **62**, 052516 (2000)]

Laser-ignited glow discharge in lithium vapor H. Skenderović, I. Labazan, S. Milošević, and G. Pichler *Institute of Physics, P.O. Box 304, HR-10000 Zagreb, Croatia* (Received 9 March 2000; published 12 October 2000)

Ignition of lithium glow discharge below self-breakdown voltage is studied for three cases of laser excitation of lithium vapor: the quasiresonant line at 460.3 nm ($2p \rightarrow 4d$), the two-photon resonant line at 639.1 nm ($2s \rightarrow 3d$ transition), or the first resonance at 670.8 nm ($2s \rightarrow 2p$ transition). The conditions for laser ignition of the discharge are described. The differences between the self-breakdown voltage and the breakdown voltage for laser initiation of the discharge are given for different lithium number densities. [S1050-2947(90)0-9311-8] [Phys. Rev. A **62**, 052707 (2000)]