DETECTING PARITY VIOLATION USING TRAPPED MOLECULES

J. E. VAN DEN BERG, C. MEINEMA, S. MATHAVAN, S. HOEKSTRA, *University of Groningen, Zernikelaan 25, 9747 AA, Groningen, The Netherlands.*

We are preparing cold samples of SrF molecules for a measurement of parity violation. This molecule is typical for a group of polar molecules that are sensitive probes for fundamental symmetries that can be Stark decelerated and laser cooled. We combine Stark deceleration with laser cooling to create ultracold samples of these molecules. We will go over the special opportunities offered by this group of molecules, and discuss the essential steps to make optimal use of the long confinement time offered by a sample of molecules confined in a trap.