SFB/TRR 21 - Seminar
28. Januar 2008, Stuttgart

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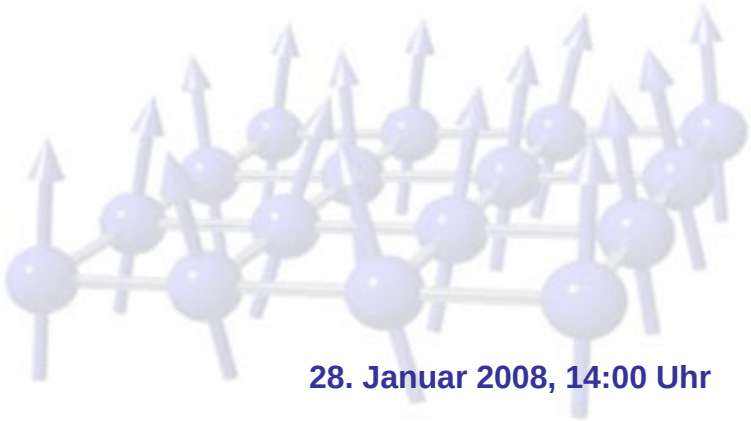
All-optical formation of a chromium Bose-Einstein Condensate

We produce ^{52}Cr Bose-Einstein Condensates in a crossed-beam optical dipole trap formed by focused infrared laser beams. Degeneracy is reached following an all-optical method with a duty cycle of less than 20s. Several innovative approaches that are instrumental to bypass the need for a strong magnetic confinement, will be discussed. Among them, the two most important are the implementation of rapid and intense rf-sweeps along with the accumulation of $^5S_2$ metastable atoms in the optical trap prior to the evaporation stage. Recent results and perspectives will be presented.



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