The Phase Coherence of Molecular Bose condensates

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In the last two years, exciting progresses on Bose-Einstein condensations (BEC) of molecules with bosonic atoms have been made. The Chicago group led by Chin has reported the achievement of the BEC of the G-wave Feshbach Cs molecules [1], and its "super-chemistry"[2]. The Columbia group led by Will has created an ultra-cold gas of Na-Cs ground state molecules closed to BEC [3]. In this talk, I shall discuss the phase coherences of different classes of molecular condensates (Ref[1]-[3]) and their experimental consequences – connection to super-chemistry [2], the longtime issues of half-vortices, and the intrinsic angular momentum in condensed matters, Ref [4].

References:

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