

Abstract Submitted
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On the dynamics of dark-bright and dark-dark solitons in two-component BECs¹ JIAJIA CHANG, CHRIS HAMNER, PETER ENGELS, Department of Physics and Astronomy, Washington State University — We report on experiments investigating the in-trap dynamics of novel solitonic structures resulting from a counterflow induced modulational instability in two-component ^{87}Rb BECs. Different types of solitons, including trains of dark-bright solitons and vector dark-dark solitons, are reliably produced for different boundary conditions. The dark-bright solitons are observed to oscillate in-trap with a frequency far below the confining harmonic trap frequency. The vector dark-dark solitons show interesting dynamics during which they periodically change their structure. Current and ongoing results of our experiment will be discussed.

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JiaJia Chang
Department of Physics and Astronomy, Washington State University

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