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Effects of three-body collisions in a two-mode Bose-Einstein condenstate[1] IVETTE FUENTES-SCHULLER, University of Nottingham, CRISTOPHER HERNANDEZ-SALINAS, PABLO BARBERIS-BLOSTEIN, Universidad Nacional Autonoma de Mexico, ROBERT B. MANN, University of Waterloo — We study the effects of three-body collisions in the basic physical properties of a two-mode Bose-Einstein condensate. By finding the exact analytical solution of a model which includes two-body and three-body elastic and mode-exchange collisions, we show analytically that three-body interactions produce observable effects in the probability distribution of the ground state and the dynamics of the relative population.

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