Exact Analytical Solutions to the Two-Mode Mean-Field Model Describing Dynamics of a Split Bose-Einstein Condensate

WU Ying[1,2] and YANG Xiao-Xue[1]

[1] National Laboratory of Laser Technique and Physics Department, Huazhong University of Science and Technology, Wuhan 430074, China
[2] Wuhan Institute of Physics and Mathematics, the Chinese Academy of Sciences, Wuhan 430071, China

Abstract: We present the analytical solutions to the two-mode mean-field model for a split Bose-Einstein condensate. These explicit solutions completely determine the system's dynamics under the two-mode mean-field approximation for all possible initial conditions.

[Full text: PDF]

Close