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Dissipative Dynamics of a Corotating Vortex Pair in a Bose-Einstein Condensate WOO JIN KWON, GEOL MOON, SANG WON SEO, MIN-SEOK KIM, MOOSONG LEE, JEONG HO HAN, YONG-IL SHIN, Seoul National University — We report on the long-time evolution of a corotating vortex pair in a highly oblate Bose-Einstein Condensate at finite temperature. We generate a doubly charged vortex in a condensate by a phase imprinting method using a magnetic quadrupole field and measure the temporal evolution of the inter-vortex distance between corotating vortices. We find that the vortex separation monotonically increases over the hold time and its increasing rate is almost linearly proportional to the temperature of the system. We discuss the thermal damping on the vortex motion in a condensate.

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