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Effects of recoiling black holes on surrounding disks MIGUEL MEGEVAND, LUIS LEHNER, Department of Physics and Astronomy, Louisiana State University, Baton Rouge, LA 70803-4001, MATTHEW ANDERSON, Department of Mathematics, Brigham Young University, Provo, UT 84602, ERIC HIRSCHMANN, Department of Physics and Astronomy, Brigham Young University, Provo, UT 84602, STEVEN LIEBLING, Department of Physics, Long Island University–C.W. Post Campus, Brookville, NY 11548, DAVID NEILSEN, Department of Physics and Astronomy, Brigham Young University, Provo, UT 84602 — The dynamics of a binary black hole can give rise to a final black hole with a recoil velocity. When a circumbinary disk is present, it will be disturbed by the recoiling black hole, possibly producing shocks and heating the gas. The hot gas can produce electromagnetic radiation through a variety of processes. In this work we study the effects of a recoiling black hole on a thick gaseous disk for different magnitude and orientations of the recoil velocity.

Miguel Megevand Department of Physics and Astronomy, Louisiana State University, Baton Rouge, LA 70803-4001

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