

## PHYSICS

### REFEREED PUBLICATIONS

- Fatuzzo, M.** & Adams, F.C. (2002). Enhancement of ambipolar diffusion rates through field fluctuations. The Astrophysical Journal, *570*, 210-221.
- Melia, F., Liu, S. & **Fatuzzo, M.** (2002). Is thermal expansion driving the initial gas ejection in NGC6251? The Astrophysical Journal, *567*, 811-816.
- Holzer, J., Newrock, R.S., Lobb, C.J., Aouaroun, T., & **Herbert, S.T.** (2001). Finite-size effects and dynamical scaling in two-dimensional Josephson junction arrays. Physical Review, *63*, 184508.
- Herbert, S.T., & Toepker, T.** (1999). Terminal velocity. The Physics Teacher, *37*, 96.
- Herbert, S.T.,** Jun, Y., Newrock, R.S., Lobb, C.J., Ravindran, K., Shin, H.K., Mast, D.B., & Elhamri, S. (1998). Effect of finite size on the Kosterlitz-Thouless transition in two-dimensional arrays of proximity coupled junctions. Physical Review B, *57*, 1154-1163.
- Khalil, A.E.** (1999). Charge carrier dynamics and the critical vortex velocity in high-Tc superconductors. Philosophical Magazine A: Physics of condensed matter, defects and mechanical properties *79*, (10), 1703.
- Khalil, A.E.** (1999). High temperature superconductivity in the mixed state and the dynamics of charge carriers. Physica C: Superconductivity *311*, 266.
- Schmitzer, H.,** Wagner, H.P., Dultz, W., & Kuehnelt, M. (2002). Phasematched third harmonic generation in mercury-(I)-chloride. Applied Optics, *41*, 470-4.
- Siebert, K.J., **Schmitzer, H.,** & Dultz, W. (2002). Measurement of the helicity of photon pairs using the optical Berry phase. Physics Letters A, *300*(4-5), 341-7.

### PRESENTATIONS AT ACADEMIC CONFERENCES

- Fatuzzo, M.** & Adams, F.C. Enhancement of ambipolar diffusion rates through field fluctuations. Paper presented at the American Astronomical Society, Albuquerque, NM.
- Schuster, A., **Herbert, S.T., & Toepker, T.** (2002). Infrared, fiber optic, Michelson interferometer using LabView. Paper presented at the American Association of Physics Teachers, Philadelphia, PA.
- Frankenhoff, M. & **Herbert, S.T.** (2001). Using LabView to collect electrical transport data on superconductors. Paper presented at the American Association of Physics Teachers, San Diego, CA.
- Witting, J., Link, J., Frankenhoff, M., & **Herbert, S.T.** (2001). Fabrication and measurement of Josephson junction arrays. Paper presented at the American Association of Physics Teachers, San Diego, CA.
- Lukens, P., **Herbert, S.T.,** Aouaroun, T., Newrock, R., & Mast, D. (1999). Transport properties of High Tc ramp-edge junction arrays. Paper presented at the American Physical Society, Atlanta, GA.
- McMullen, S.M., Smith, P.E., **Herbert, S.T., & Toepker, T.P.** (1999). Production of various holographic diffraction gratings. Paper presented at the American Association of Physics Teachers, Anaheim, CA.
- Smith, P.E., McMullen, S.M., **Herbert, S.T., & Toepker, T.P.** (1999). Analysis of periodic structures using a scanning probe microscope. Paper presented at the American Association of Physics Teachers, Anaheim, CA.

OTHER

**Herbert, S.T.** (2002). Finite-size (i.e. real) samples and the two-dimensional superconducting transition.  
Invited talk presented to the Miami University physics department, Miami, OH.