

Abstract Submitted
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A Cosmic-Ray and Thermally Driven Kiloparsec-scale Outflow from the Milky Way¹ JOHN EVERETT, QUINTIN SCHILLER, ELLEN ZWEIBEL, University of Wisconsin – Madison — We review the importance of cosmic-ray pressure in helping to drive kpc-scale galactic outflows. In particular, we examine the case of the Milky Way, and outline a theory that the “Galactic X-ray Bulge” discovered by Snowden et al. (1997) is the signature of a large-scale outflow driven by combined thermal and cosmic-ray pressure. We confront this model with observations of the synchrotron halo from Haslam et al. (1981), and discuss the constraints that these observations place on the wind model and perhaps any model of the “Galactic X-ray Bulge”. We also outline further advances to the model including a more detailed cosmic-ray diffusion model, and the possible role of clumping and mass loading in the outflow.

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John Everett
University of Wisconsin – Madison

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