Abstract Submitted for the TSF11 Meeting of The American Physical Society

Kiloparsec-scale Jets in Lobe-dominated Quasars¹ DAVID HOUGH, GARETH JONES, Trinity University — We are investigating the physics of kiloparsec-scale jets in a complete sample of lobe-dominated quasars (LDQs). Previously, Bridle et al. (1994, AJ, 108,766) reported results for 13 of the 25 LDQs in a well-defined 3CR complete sample. Here, we add results for 8 more LDQs, and present new analyses for all 21 sources (84% completeness). Two key, but tentative, results in Bridle et al. are confirmed here: (1) the prominences (normalized brightnesses) of the parsec-scale and kiloparsec-scale jets are strongly correlated (99.9% confidence), and (2) the prominence of the kpc jet terminal hot spots is anti-correlated with jet bending angle (99% confidence, but this result is highly dependent on just 3 sources). Because relativistic motion has been directly observed in Doppler-boosted pc jets, the first result strongly suggests relativistic motion on kpc scales. The second result suggests that highly-bent kpc jets are less able to form powerful hot spots. Future work will explore longitudinal and transverse velocity fields in the kpc jets, as well as inverse Compton models for their X-ray emission.

¹This work was supported in part by an AAS Small Research Grant.

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Date submitted: 13 Sep 2011

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