

Abstract Submitted
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A Search for Parsec-scale Radio Jets in Faint Quasar and Radio Galaxy Nuclei¹ DAVID HOUGH, Trinity University, CHRISTIAN AARS, Angelo State University — Parsec-scale radio jets in bright active galaxy nuclei have been well-studied, but they are generally directed toward Earth. To test relativistic jet models over a wide range in orientation, we are studying nuclei 10-1000 times weaker. Observations of four very faint nuclei in classical doubles were made at 8.4 GHz in December 2004 and March 2006 using the High Sensitivity Array (HSA). The radio galaxy 3C132 has a 5- mJy elliptical structure, but it is not clear if this might represent a one- or two-sided jet. The radio galaxy 3C34 shows a 1.5-mJy circular core with no jet. The radio galaxy 3C441 was not detected (< 1 mJy). The quasar 3C68.1 has a 1.2-mJy circular core with no jet. Thus, despite the HSA's extreme sensitivity, we have not made a clear detection of a single jet. This is somewhat surprising based on an extrapolation of a known core-jet brightness correlation to fainter nuclei, but core and jet Lorentz factors of 5-10 could explain the missing jets if a substantial fraction of the core emission is unbeamed at large orientation angles.

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