

[Home](#) > [CNS](#) > [ASTRO](#) > [ASTRO_FACULTY_PUBS](#) > [828](#)

Astronomy Department Faculty Publication Series

Evidence for a population of high-redshift submillimeter galaxies from interferometric imaging

[JD Younger](#)[GG Fazio](#)[JS Huang](#)[Min Yun, *University of Massachusetts - Amherst*](#)[GW Wilson](#)[MLN Ashby](#)[MA Gurwell](#)[K Lai](#)[AB Peck](#)[GR Petitpas](#)[DJ Wilner](#)[D Iono](#)[K Kohno](#)[R Kawabe](#)[DH Hughes](#)[I Aretxaga](#)[T Webb](#)[A Martinez-Sansigre](#)[S Kim](#)[KS Scott](#)[J Austermann](#)[T Perera](#)[Follow](#)[Download](#)[Find in your library](#)**Included in**[Astrophysics and](#)[Astronomy Commons](#)

in

[Astrophysics and Astronomy](#)[Commons](#)[SHARE](#)

Enter search terms:

in this series

[Advanced Search](#)[Notify me via email or RSS](#)[Browse](#)[Collections](#)[Disciplines](#)[Authors](#)[Author Corner](#)[Author FAQ](#)[Links](#)[University Libraries](#)[UMass Amherst](#)[Contact Us](#)

Publication Date

2007

Comments

This is the pre-published version harvested from ArXiv. The published version is located at <http://iopscience.iop.org/0004-637X/671/2/1531/>

Abstract

We have used the Submillimeter Array to image a flux-limited sample of seven submillimeter galaxies, selected by the AzTEC camera on the JCMT at 1.1 mm, in the COSMOS field at 890 μ m with $\sim 2''$ resolution. All of the sources—two radio-bright and five radio-dim—are detected as single point sources at high significance ($>6\sigma$), with positions accurate to $\sim 0.2''$ that enable counterpart identification at other wavelengths observed with similarly high angular resolution. All seven have IRAC counterparts, but only two have secure counterparts in deep *HST* ACS imaging. As compared to the two radio-bright sources in the sample, and those in previous studies, the five radio-dim sources in the sample (1) have systematically higher submillimeter-to-radio flux ratios, (2) have lower IRAC 3.6-8.0 μ m fluxes, and (3) are not detected at 24 μ m. These properties, combined with size constraints at 890 μ m ($\theta 1.2''$), suggest that the radio-dim submillimeter galaxies represent a population of very dusty starbursts, with physical scales similar to local ultraluminous infrared galaxies, with an average redshift higher than radio-bright sources.

Pages

1531-1537

Volume

671

Issue

2

Journal Title

ASTROPHYSICAL JOURNAL

This page is sponsored by the [University Libraries](#).

© 2009 [University of Massachusetts Amherst](#) • [Site Policies](#)