

The Relation between C⁺ and CO Emission in a Sample of Normal Galaxies

Steven Lord *

IPAC, California Institute of Technology

Sangeeta Malhotra †

IPAC, California Institute of Technology

K. Y. Lo ‡

University of Illinois

Nanyao Y. Lu §

IPAC, California Institute of Technology

George Helou ¶

IPAC, California Institute of Technology

Harriet Dinerstein ||

University of Texas

David J. Hollenbach **

NASA/Ames Research Center

Abstract

We present results from the US Key 150 Project on Normal Galaxies (Helou et al. 1996). The project collects a variety of diagnostics from 150 instruments to derive the properties of the interstellar gas, dust, and radiation field for a broad sample of “normal” disk galaxies. We report on fine structure emission lines observed with the LWS, including the [CII]157 μ m transition, for about 24 galaxies. We compare these measurements with CO J=1-0 observations taking from the literature and from recent observations by our team. The trend in CII emission vs. CO emission is examined in the context of the star-forming properties of these sources, including their morphological types.

“ lord@ipac.caltech.edu
† san@ipac.caltech.edu
‡ kyl@sgr.astro.uiuc.edu
§ lu@ipac.caltech.edu
¶ helou@ipac.caltech.edu
|| harriet@astro.as.utexas.edu
** hollenbach@warped.arc.nasa.gov