

A population of mid-IR Compton thick AGN in the CDF-N ?

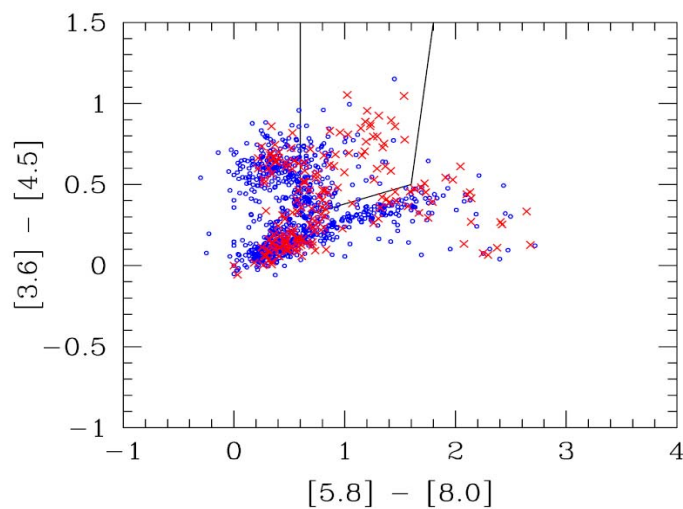
Introduction

There have been claims for a population of AGN found in Spitzer surveys which are not detected in X-rays.

The usual way to detect mid-IR AGN is to use the IRAC colours and define a wedge where 'red' sources reside.

Results

Sources in the CDF-N **x**=x-ray detection **o**= not x-ray detected



There are 178 mid-IR AGN of which $\frac{1}{4}$ are not detected in X-ray.

The stacking analysis of the undetected sources gives strong signal in the soft but not signal in the hard band [implying a soft spectrum $\Gamma > 1.6$]

$$F[0.5-2 \text{ keV}] = 5 \times 10^{-18} \text{ cgs}$$

$$L [0.5-2 \text{ keV}] = 2 \times 10^{40} \text{ cgs}$$

$$L_x/L_{\text{bol}} \sim 10^{-5}$$

The soft signal in conjunction with the low L_x/L_{bol} imply that we are viewing mainly star-forming galaxies.

Conclusion: there is no indication for a numerous mid-IR AGN population which evade X-ray detection