LOCAL AND GLOBAL OPTICAL, FAR-INFRARED (FIR) AND X-RAY PROPERTIES OF THE FIR QUIESCENT SC GALAXY NGC 247

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We present an Optical, FIR and X-ray study of the low L_{FIR} Sc galaxy, NGC 247. **Global** correlations (ie. B or X vs. Radio or FIR) in late-type spirals suggest that some luminosities do not scale linearly. We describe first results of a program to study emission in late-type spirals on **local** (kpc) scales to investigate this non-linear behaviour. Our data includes B, I, Hα+[NII] CCD, IRAS 60, 100μm (Rice 1993), and ROSAT PSPC, (0.1-2.4keV) images. Since abstract submission we have added H I (Carignan and Puche 1990) and 1.49 GHz continuum (Condon 1987). The Hα+[NII] is generally coextensive with the IRAS emission and H I. The brightest Hα+[NII] region (log $L_{H\alpha}$~38.6 ergs s^{-1}) in a region of low FIR flux, may possess a locally warm 60/100μm ratio suggesting a similarity with more luminous galaxies that have warm 60/100μm ratios globally. 1.49 GHz sources are not cospatial with bright X-ray sources, nor with Hα+[NII] . Three extended 1.49 GHz sources are cospatial with very faint, soft X-ray emission, suggesting a SNR origin. We cannot rule out a *direct* 1.49 GHz/X-ray or 1.49 GHz/ H II origin due to relativistic e^- propagation. ROSAT PSPC results suggest 4 4σ (0.1-2.4 keV) X-ray sources are intrinsic. Their L_X range of 10^{36-37} ergs s^{-1} is consistent with X-ray binaries, whilst the total $L_X = 3.0\text{x}10^{37}$ ergs s^{-1} is **underluminous** by ~3, compared to previous regression fits. A faint soft, L_X ~$1\text{x}10^{36}$ ergs s^{-1} nuclear X-ray feature may be a SNR outflow, and similar to plumes/outflows seen in *starbursts*, but 10^4 less luminous.