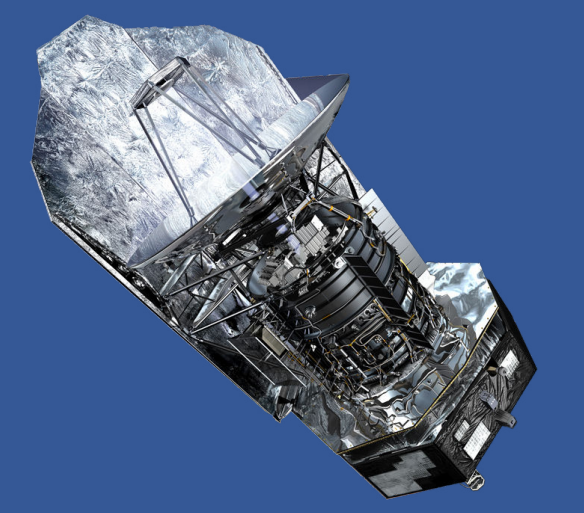


The Herschel Database in Marseille (HeDaM)

An Information System for Extra-galactic and Cosmological Data

Yannick Roehly^{*}, Véronique Buat^{*}, Chrystel Moreau^{*}

^{*}Laboratoire d'Astrophysique de Marseille



Abstract

The Herschel Database in Marseille (HeDaM) is an information system operated by the *Centre de données Astrophysiques de Marseille* (CeSAM) to distribute the public data of some of the main extra-galactic surveys on ESA's Herschel Space Observatory. We present here these surveys and the available data.

HERMES

The Herschel Multi-tiered Extragalactic Survey (HerMES; Oliver *et al.*, 2012) is a project to study the evolution of galaxies in the distant Universe. It is the largest project on Herschel (900 hours). The survey is composed of SPIRE observations on different fields. Figure 1 shows the positions of the fields of the first data release (DR1).

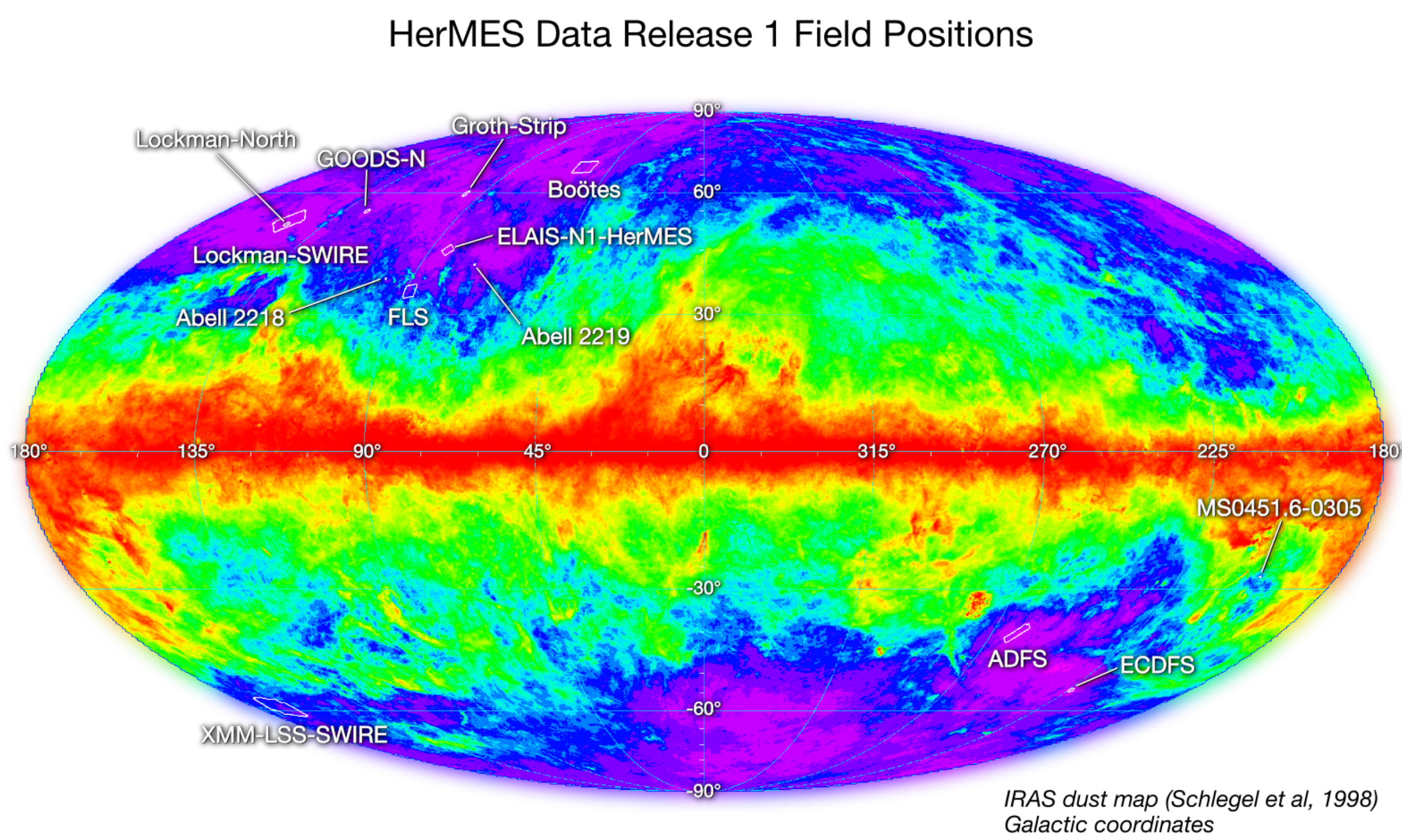


Figure 1: HerMES-DR1 field locations

HeDaM distributes SPIRE maps (250, 350 and 500 μm) and catalogues on each field. We also developed some tools to search if a position is on the survey coverage and to perform searches in the survey catalogues.

GOODS-HERSHEL

GOODS-Herschel (Elbaz *et al.*, 2011) is an open time key programme of more than 360 hours of observations with the Herschel instruments SPIRE and PACS from 100 μm to 500 μm on the two fields of the Great Observatories Origins Deep Survey (GOODS).

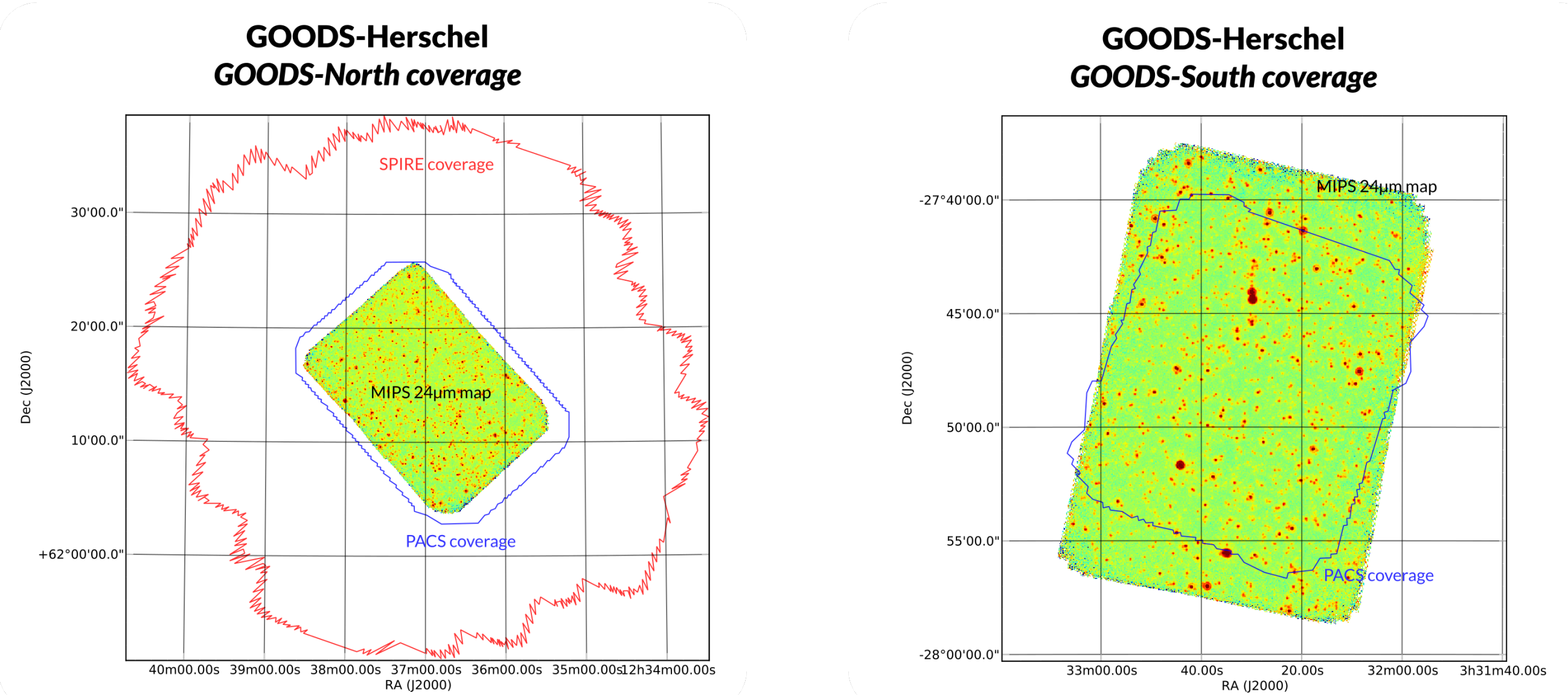


Figure 2: GOODS-Herschel fields

The GOODS-North field is centered on the position of the *Hubble Deep Field North*. The data is composed of:

- ▶ PACS observations (100 and 160 μm): **124 hours**, $10' \times 16'$.
- ▶ SPIRE observations (250, 350 and 500 μm): **31 hours**, 900 arcmin².
- ▶ **2,710 sources** in the multi- λ catalogue.

The GOODS-South field is a $10' \times 10'$ area centered on the position of the *Chandra Deep Field South*. It was observed for 206 hours with PACS to reach the confusion limit at 100 μm :

- ▶ PACS observation (100 and 160 μm): **206 hours**, $10' \times 10'$.
- ▶ **2,531 sources** in the multi- λ catalogue.

HRS

The Herschel Reference Survey (HRS; Boselli *et al.*, 2010) is a guaranteed time key project to observe a sample of 323 galaxies at 250, 350, and 500 μm . This sample contains sources with distances between 15 and 25 Mpc and spans the whole range of morphological types (ellipticals to late-type spirals) and environments. In addition to Herschel data, SPIRE maps and photometry from Ciesla *et al.* (2012), HeDaM distributes the Spitzer/MIPS data from Bendo *et al.* (2012), the GALEX data from Cortese *et al.* (2012) and the spectroscopy data from Boselli *et al.* (2013) on the HRS targets (see figure 3).

HRS (CONTINUED)

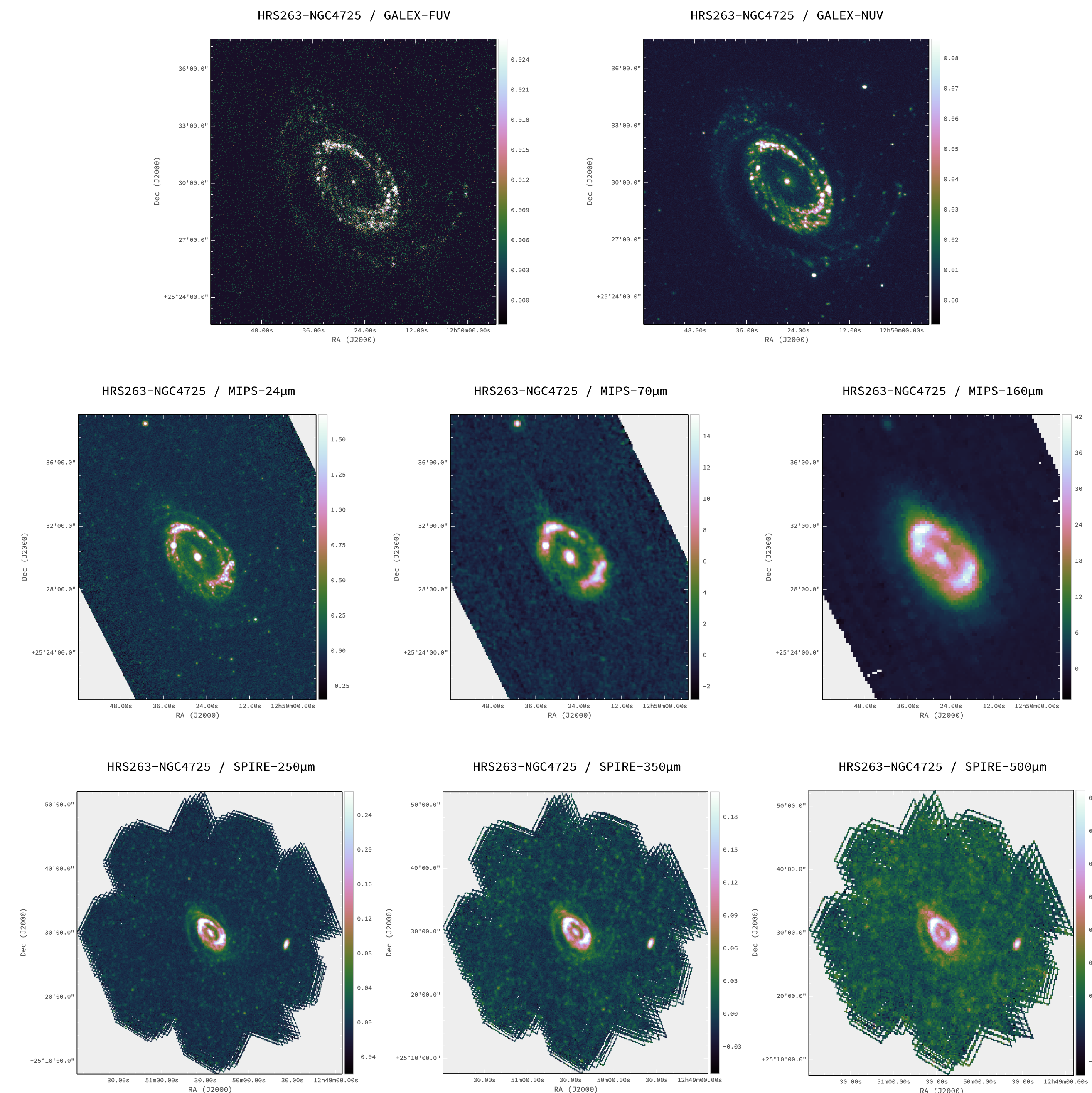


Figure 3: Multi-wavelength observations of HRS263 - NGC4725

VNGS

“Physical Processes in the Interstellar Medium of Very Nearby Galaxies” (VNGS; P.I. Christine Wilson, McMaster University) is a survey using the SPIRE and PACS instruments on Herschel to measure the emission spectrum from dust as well as important cooling lines from the gaseous interstellar medium in sample of 13 very nearby galaxies: M51, M81, NGC2403, NGC891, M83, M82, Arp220, NGC4038/39, NGC1068, NGC4151, CenA, NGC4125, and NGC205.

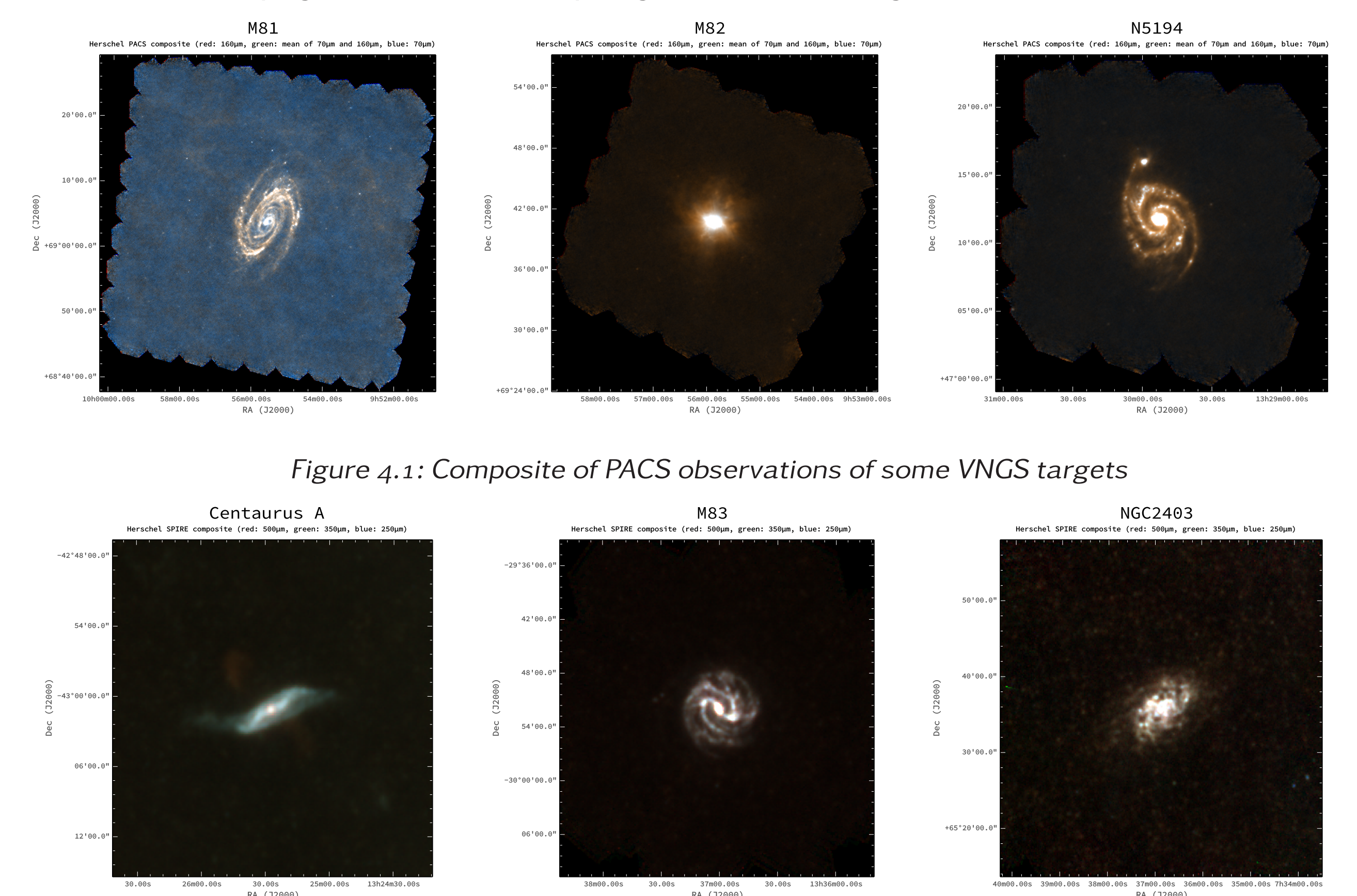


Figure 4.1: Composite of PACS observations of some VNGS targets

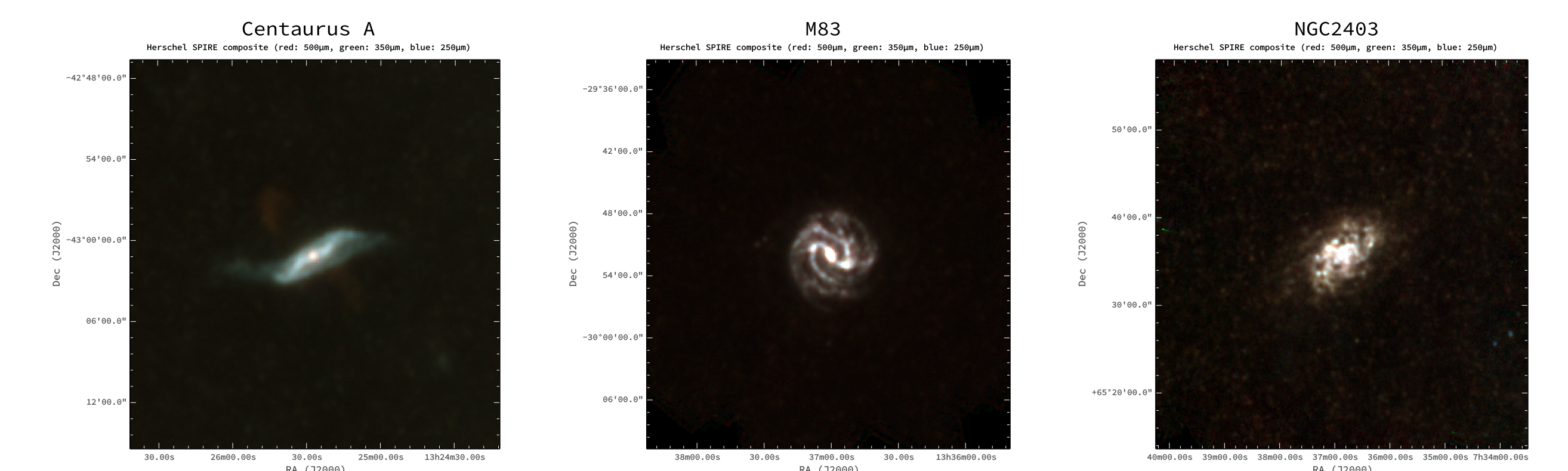


Figure 4.2: Composite of SPIRE observations of some VNGS targets

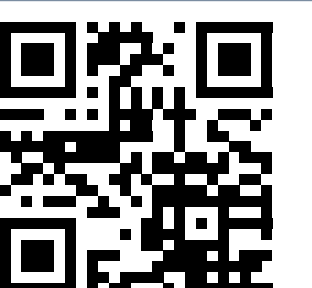
HeDaM distributes the SPIRE and PACS maps of the VNGS targets (see figures 4.1 and 4.2).

OTHER SURVEYS

During 2014, the public data of the Dwarf Galaxy Survey (DGS) from the “The Interstellar Medium in Low Metallicity Environments” programme (P.I. Suzanne Madden, CEA Saclay) will be added to HeDaM.

ADDRESS AND CONTACTS

HeDaM address is <http://hedam.lam.fr>. You can contact the team at hedam@lam.fr.



REFERENCES

Bendo *et al.*, 2012 MNRAS 423 197B/ Boselli *et al.*, 2010 PASP 122 261B/ Boselli *et al.*, 2013 AA 550A 114B/ Ciesla *et al.*, 2012 AA 543A 161C/ Cortese *et al.*, 2012 AA 544A 101C/ Elbaz *et al.*, 2011 AA 533A 119E/ Oliver *et al.*, 2012 MNRAS 424 1614O