

Activity Report of the NAOJ Visiting Scholar Program

Host Project/Division: NAOJ Chile Observatory Name of Host Scientist: Yuichi Matsuda

Name of Visiting Scholar: Paola Andreani

Title: Visiting Professor, Visiting Associate Professor, Visiting Research Fellow

(Choose the appropriate one)

Period: from 2018/01/28 to 2018/02/24

I. Report from the visiting scholar

[i] Achievement during the period of stay (in comparison with the initial plan)

(Collaborative Research)

Two week visit at the Nobeyama Observatory: 11 nights of observations with FOREST observing the CO(1-0) emission from nearby galaxies. Research done in collaboration with Yosuke Miyamoto-san and Ken Tatematsu-san.

During this visit I gave two talks

1. [Extreme excitation in high redshift galaxies: APEX and ALMA observations of the Atomic Carbon \(CI\) and Carbon monoxide \(CO\) emission lines](#)
2. [The dust, atomic and molecular mass functions and the star formation rate function of a complete sample of nearby galaxies](#)

4 week visit at Mitaka:

Searching for faint sources in continuum and line emission in the ALMA data: research done in collaboration with Yuichi Matsuda-san and Natsuki Hayatsu-san (she is currently a student at ESO and this research currently continues at ESO).

Data reduction of the Nobeyama data with nostar at the Mitaka campus HW in collaboration with Miyamoto-san.

During this visit I gave a talk:

[Detection of faint sources in continuum and in the line in ALMA deep fields](#)

(Education)

(Others)

[ii] Any comments on this program

I warmly thank Ken Tatematsu-san for his kind invitation and his hospitality at the Nobeyama Observatory. I warmly thank NAOJ-Chile for the stay at Mitaka and all the ALMA-Chile NAOJ team for the warm hospitality and the kindness and efficiency of all staff.

My stay has been wonderful and I really enjoyed a lot, everything.

[iii] List of publications and presentations by the visiting scholar in collaboration with NAOJ staff or graduate students

I. Paper “[The bivariate luminosity and mass functions of the local HRS galaxy sample. The stellar, dust, gas mass functions](#)”

Submitted to Astronomy and Astrophysics

Authors: P. Andreani, A.Boselli, L.Ciesla, R.Vio, L.Cortese, V.Buat, and Y. Miyamoto

II. Paper “[CO\(1-0\) line emission in the HRS sample and the molecular mass luminosity function](#)”
in preparation

Authors: P. Andreani, Y. Miyamoto, K. Tatematsu, A.Boselli, L.Ciesla, L.Cortese

III. Paper “[Blind search of line emission galaxies in ALMA datacubes exploiting the statistics of the peaks](#)”
In preparation

Authors: P. Andreani, N. Hayatsu, Y. Matsuda, R. Vio, A. Biggs, Z.-Y. Zhang, H. Nagai, T. Hasegawa, J. Ueda, R. Ivison

II. Report from the host scientist

[iv] Any comments on this program

We really appreciated Prof. Andreani ‘s visit. I saw that she interacted with many researchers in NAOJ and encouraged our ALMA works.