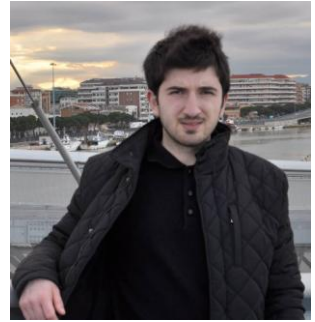


## Harutyunyan Vahagn

Position: PhD

Period covered: 2013-2016



### I Scientific Work

My current research is dedicated of measuring SN rate as a function of environment and radio luminosity of the galaxies. I exploit data from SUDARE (Supernova Diversity And Rate Evolution) survey, which is conducted with the ESO VST telescope with the aim to measure rates of different SN type in  $0 < z < 0.8$  redshift range. For this task the study being performed on two best-studied extragalactic fields, CDFS and COSMOS.

### II Conferences and educational activities

*II a Conferences and Other External Scientific Work*

*II b Work With Students*

*II c Diploma thesis supervision*

**Supervisor:** Massimo Della Valle

**Thesis:** Supernova Diversity from Galaxy Cluster Diversity: Rates and Hints on Supernova Progenitors

*II d Other Teaching Duties*

*II e. Work With Postdocs*

### III. Service activities

*III a. Within ICRANet*

**Research:** We aim to analyze if at higher redshifts both type Ia and CC SN rates follow the same trend that of the local Universe. For this purpose we cross-matched the galaxy sample monitored by SUDARE with VLA catalog. The Supernova Diversity And Rate Evolution (SUDARE) is a SN survey that aims to measure the SN rates as a function of redshift, sSFR, stellar mass and radio and infrared luminosity of galaxies. The SN search is performed in two of the best-studied extragalactic fields, the CDFS and COSMOS. The cadence of observation, during the first two years of our program, is every 3 days in r band and 1 week in g, i bands to obtain multicolor light curves for photometric typing of transients. We collected 117 SNe, from which 57% are type Ia SNe To analyze if the SN rates also increase with infrared luminosity we cross-matched the SUDARE galaxy sample with MIR SWIRE catalog. In the LIRG subsample 8 SNe have been discovered. The SN Ia and CC rate measurement in radio and infrared galaxy samples is in preparation.

*III b. Outside ICRANet*

#### **IV. Other**

##### **2014 List of Publication**

1. V. Harutyunyan, M. T. Bottcella, E. Cappellaro, M. Della Valle, G. Pignata, L. Greggio, Supernova rates as a function of radio luminosity from SUDARE Survey (in preparation)
2. V. Harutyunyan, M. T. Bottcella, E. Cappellaro, M. Della Valle, G. Pignata, L. Greggio, SN rates in Galaxy Groups luminosity from SUDARE survey (in preparation)