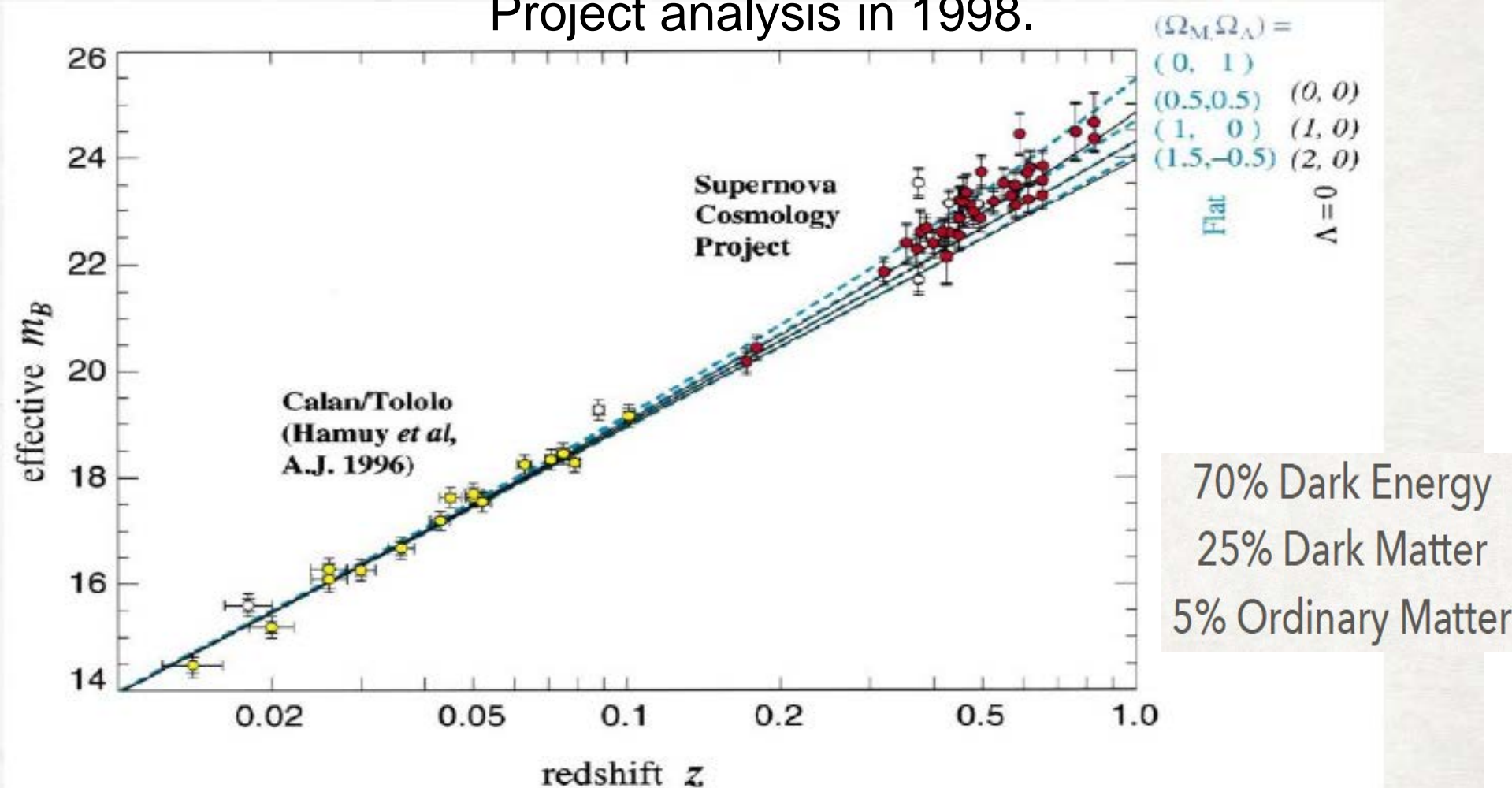


*The results of analysis of  
Ia supernovae redshift  
distribution on data of the  
Asiago Supernova and  
Open Supernova  
Catalogues*

*National Research Nuclear University MEPhI, Moscow, Russia*

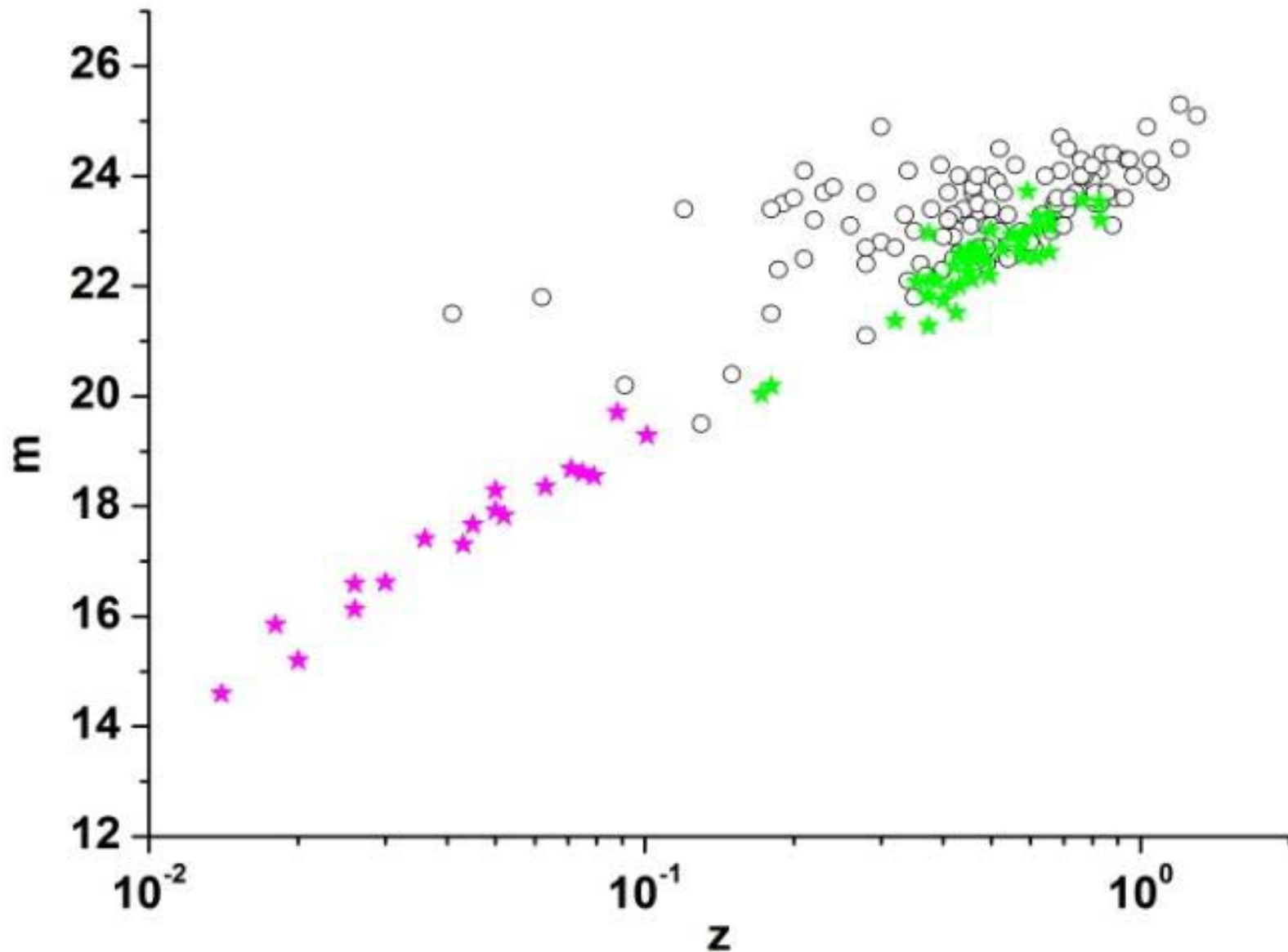
The shape of redshift distribution for uniform sources set in our Metagalaxy defined by cosmological parameters and properties of space is Euclidean at small redshifts and de-Sitter at  $z > 0.7$ . Firstly the parameters of our Metagalaxy  $\Omega$  and  $\Lambda$  were determined due sample of Ia supernovae from the Supernova Cosmology Project analysis in 1998.



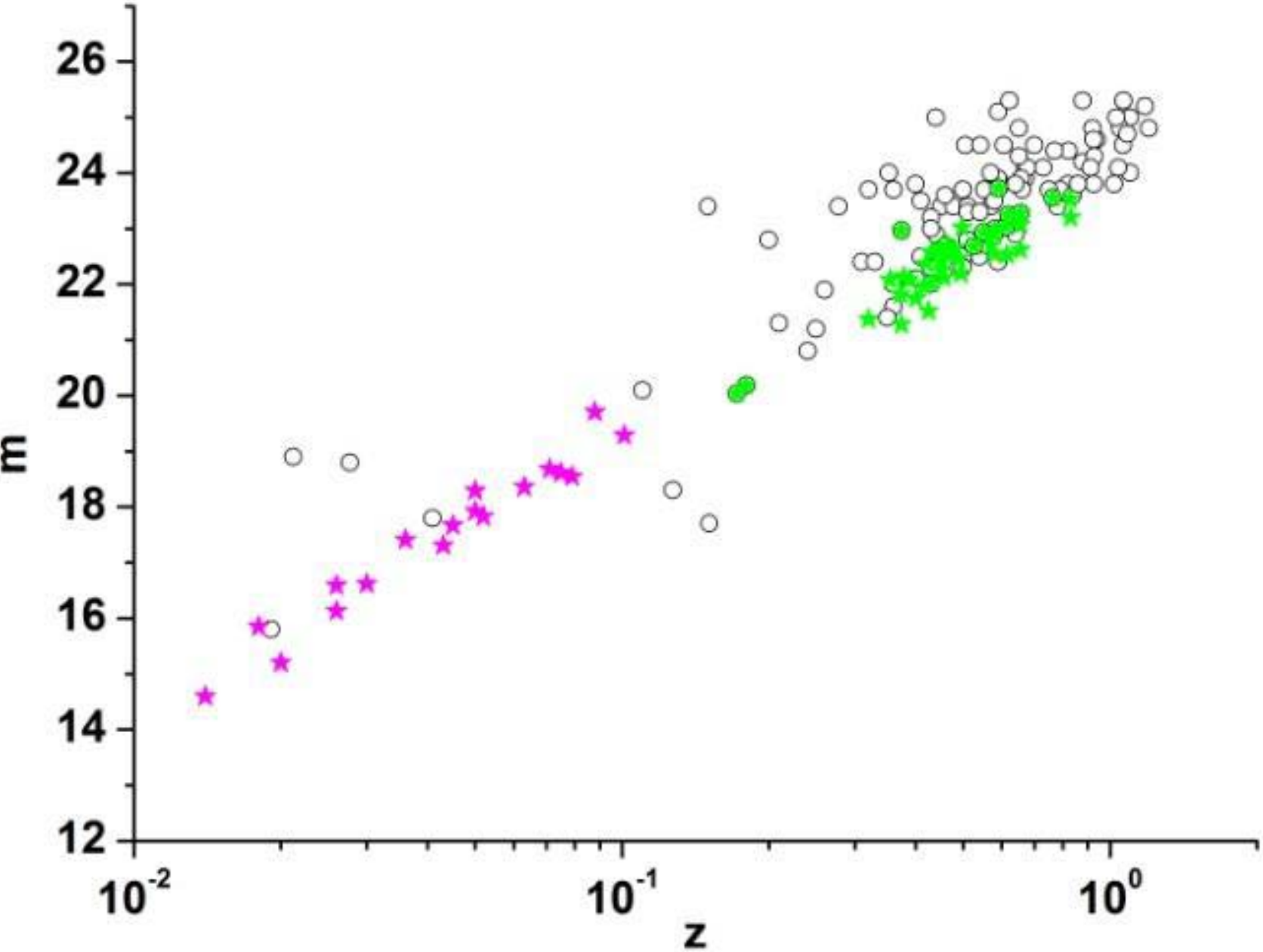
## Now the Open Supernova Catalog (OSC) contain data of 67796 SN

1. Asiago Supernova Catalog;
2. • Caltech Core-Collapse Program (CCCP);
3. • Cambridge Photometry Calibration Server (CPCS);
4. • Carnegie Supernova Project (CSP);
5. • CfA Supernova Archive;
6. • Gaia Photometric Science Alerts;
7. • Latest Supernovae (Rochester Astronomy);
8. • Nearby Supernova Factory (SNF);
9. • OGLE-IV Transient Detection System;
10. • Panoramic Survey Telescope & Rapid Response System (Pan-STARRS);
11. • SDSS Supernova Survey;
12. • Sternberg Astronomical Institute Supernova Light Curve Catalogue;
13. • Supernova Hunt (SNHunt);
14. • Supernova Legacy Survey (SNLS);
15. • The Online Supernova Spectrum Archive (SUSPECT);
16. • UC Berkeley Filippenko Group's Supernova Database (SNDB);
17. • Weizmann Interactive Supernova data REPOSITORY (WiSeREP).

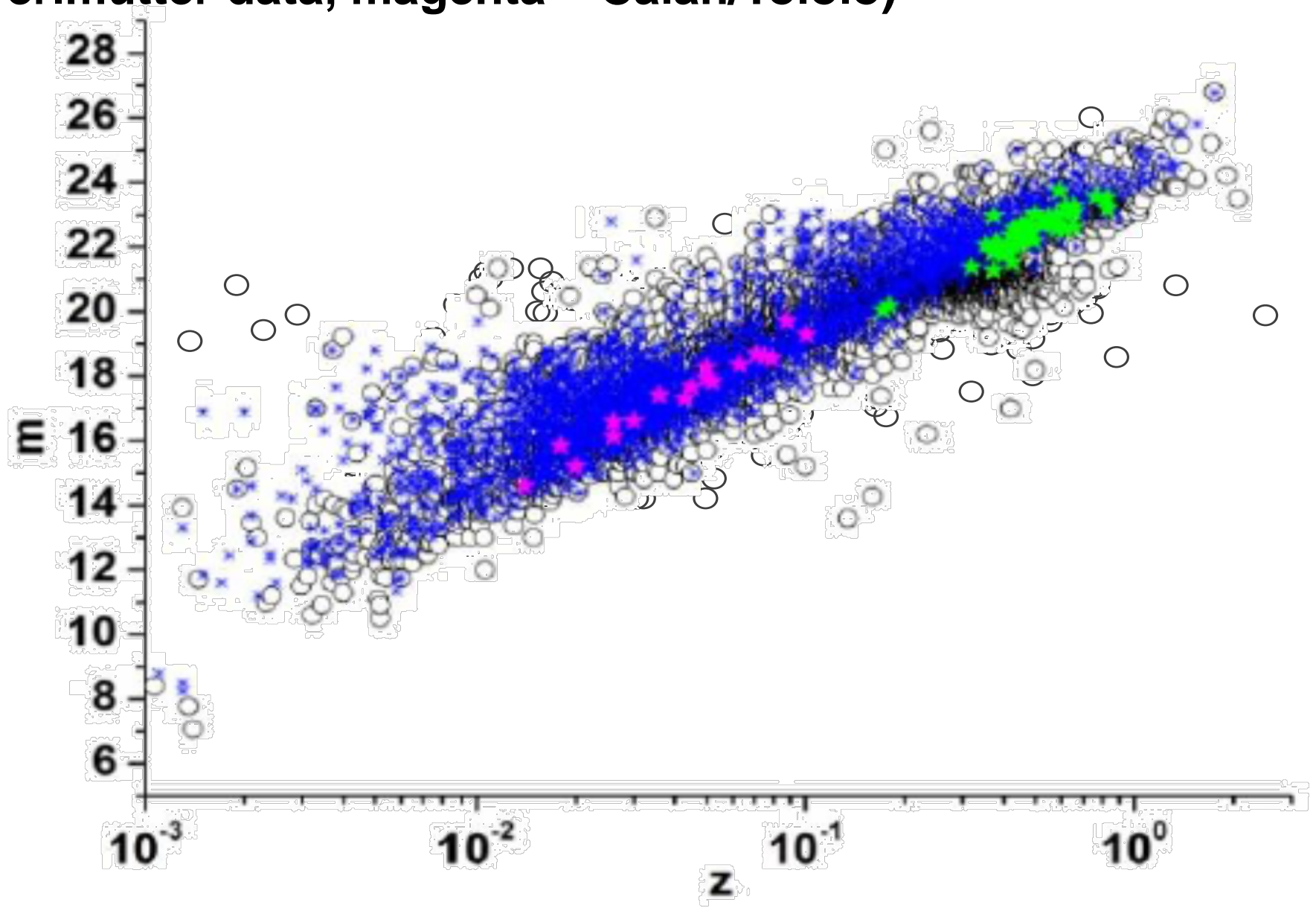
**Plot of magnitude dependence on redshift for HZSST experiment (green – Perlmutter data, magenta – Calan/Tololo)**



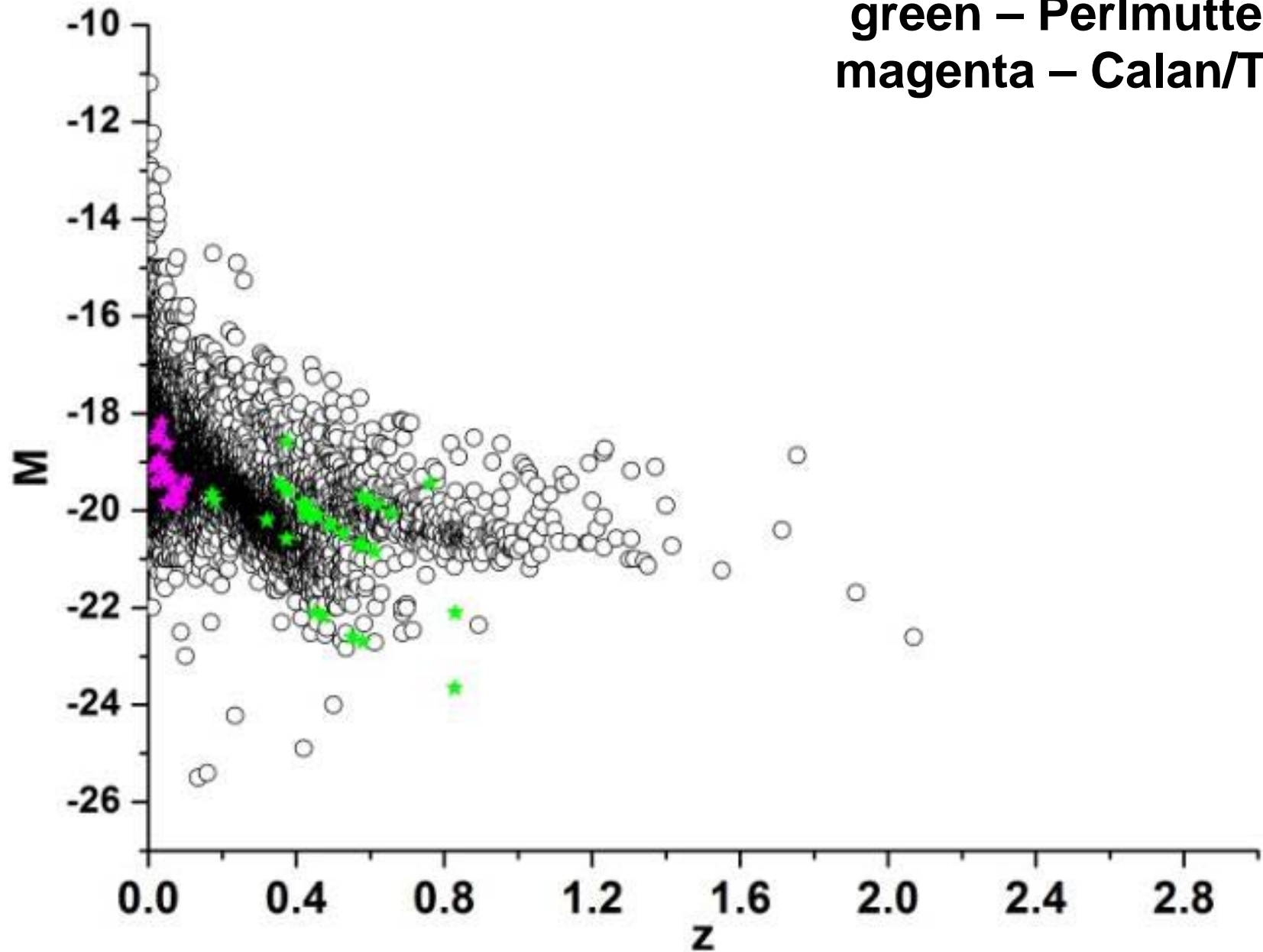
Plot of magnitude dependence on redshift for SCP experiment (green – Perlmutter data, magenta – Calan/Tololo)



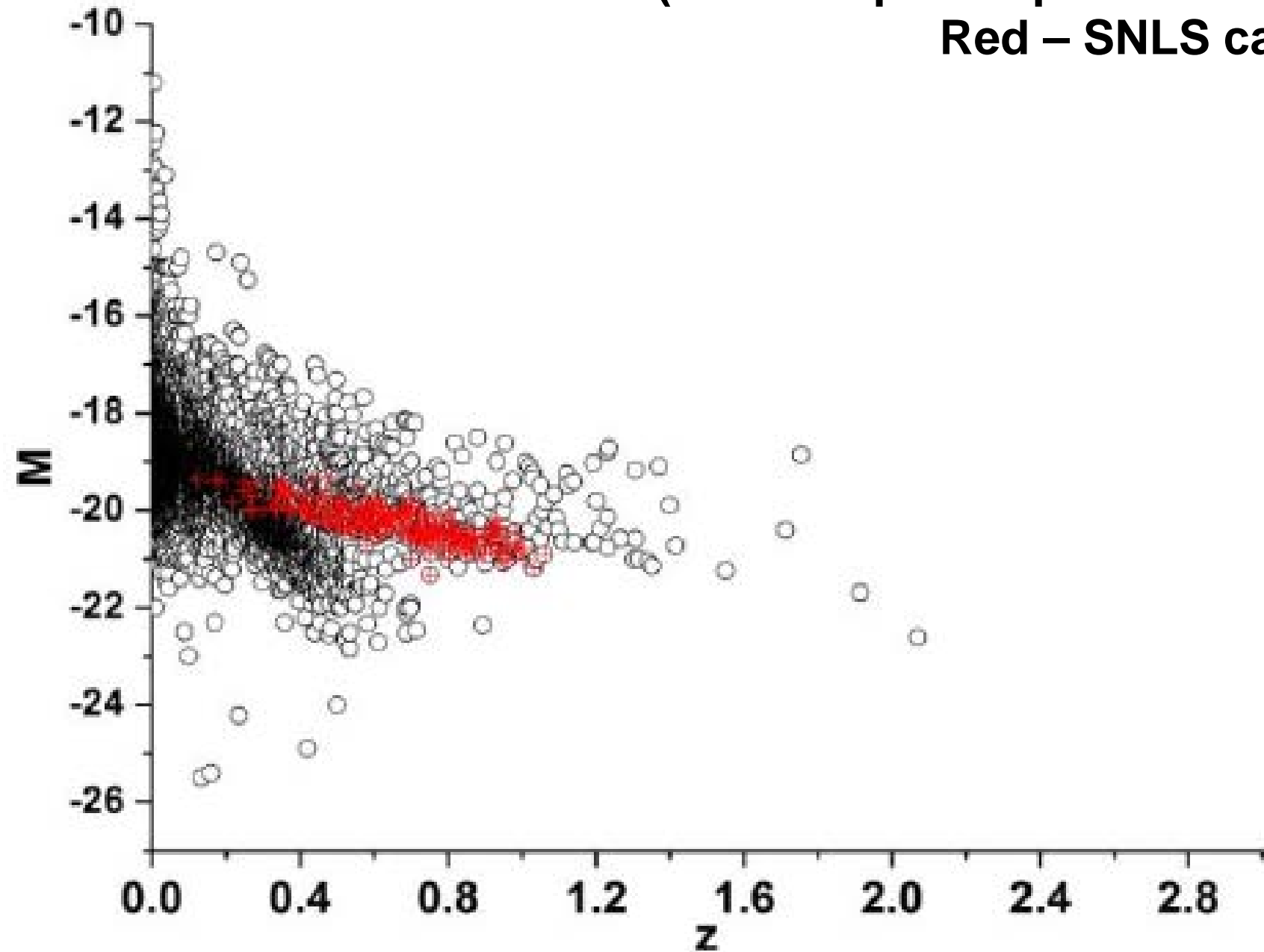
**Plot of magnitude dependence on redshift (black - Open Supernova Catalog, blue - Asiago Supernova Catalog, green - Perlmutter data, magenta - Calan/Tololo)**



**Plot of absolute magnitude dependence on redshift (black - Open Supernova Catalog, green - Perlmutter data, magenta - Calan/Tololo).**



**Plot of absolute magnitude dependence  
on redshift (black - Open Supernova Catalog,  
Red - SNLS catalog).**





# CONCLUSIONS

The preliminary results of data analysis shows that several peculiarities are presented in Ia supernovae redshift distribution at  $z > 0.4$ .



**Different scenarios of Type Ia SNe explosions  
(Single Degenerate, Double Degenerate)????**

**Absorption in the Galaxy, in host galaxies?????**

**Deviations that occur over  
redshift ranges as small as about 0.05 and as large as the full  
observed redshift range of about 2.3 ?????**

**Really changing of the parameters of our Metagalaxy???**

**Next: Dark Energy Survey Supernova Program data  
analysis...**

**Thank you for attention!**