

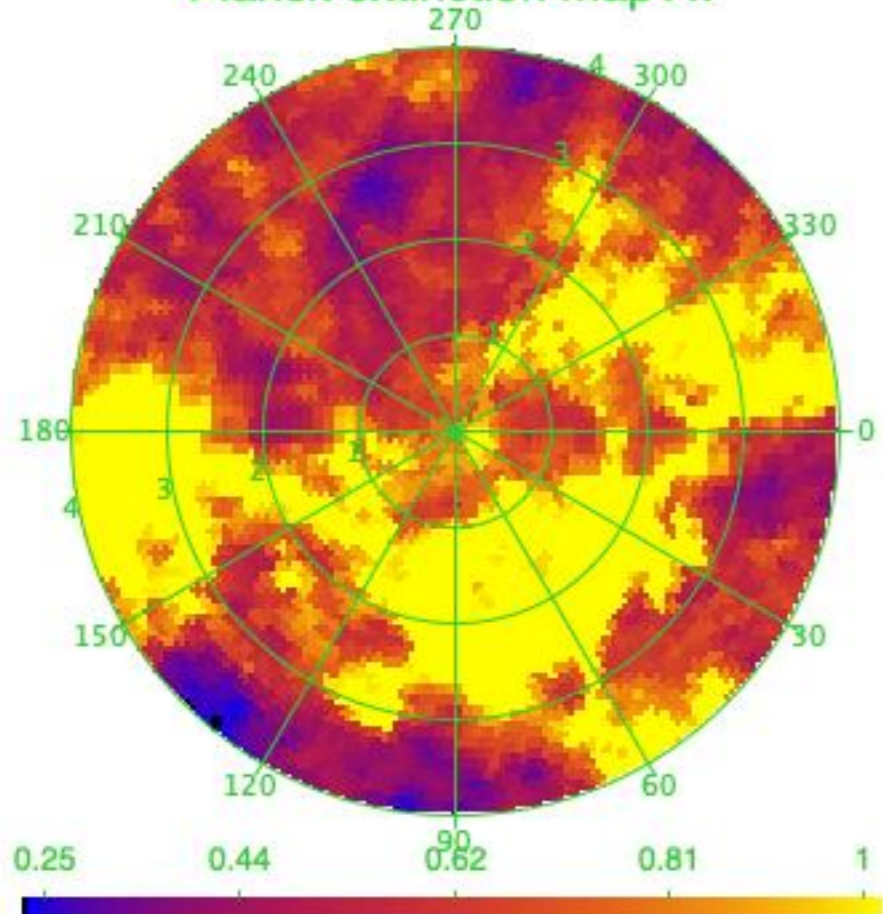
NCCS-WYIN catalog assessment

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2 May 2023

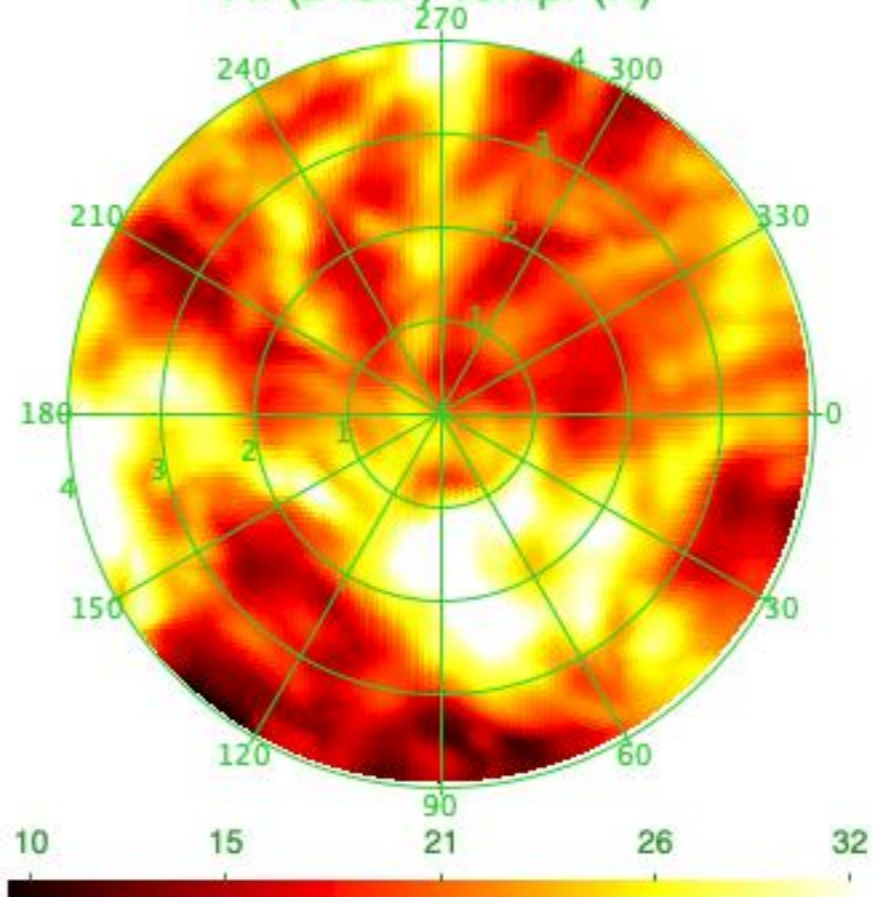
Preliminary

1. Extinction effect (A. Stebbins suggestion)
2. Understanding catalog magnitude and redshift distribution
3. Correlation function

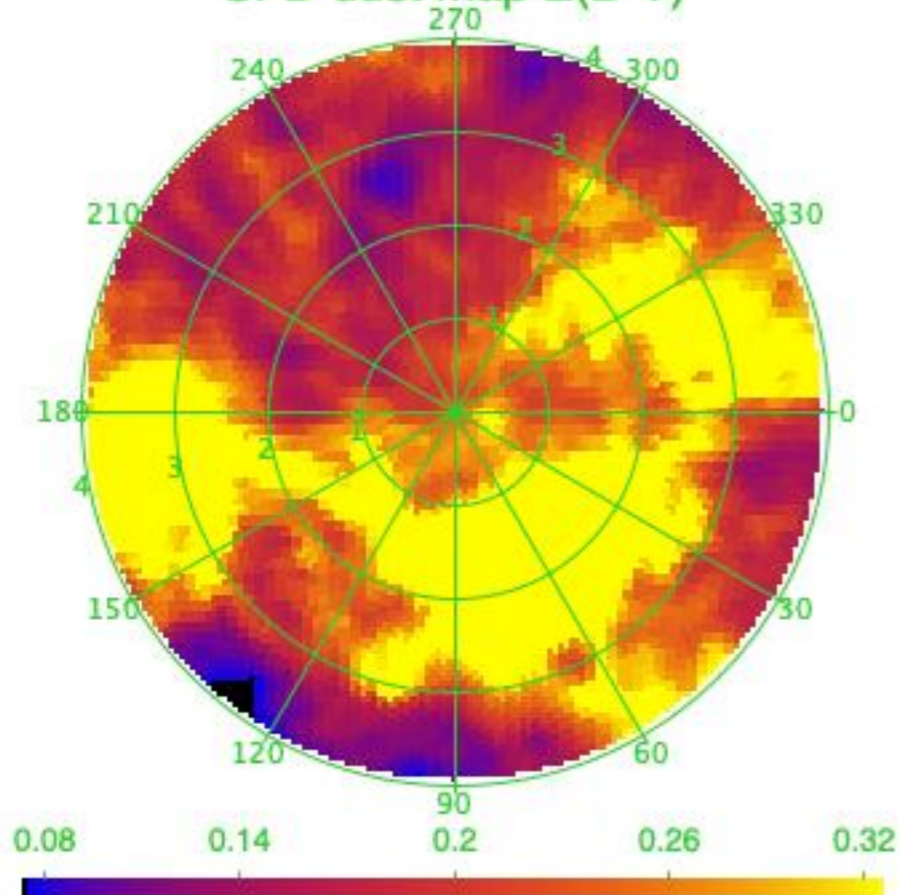
Planck extinction map A_V



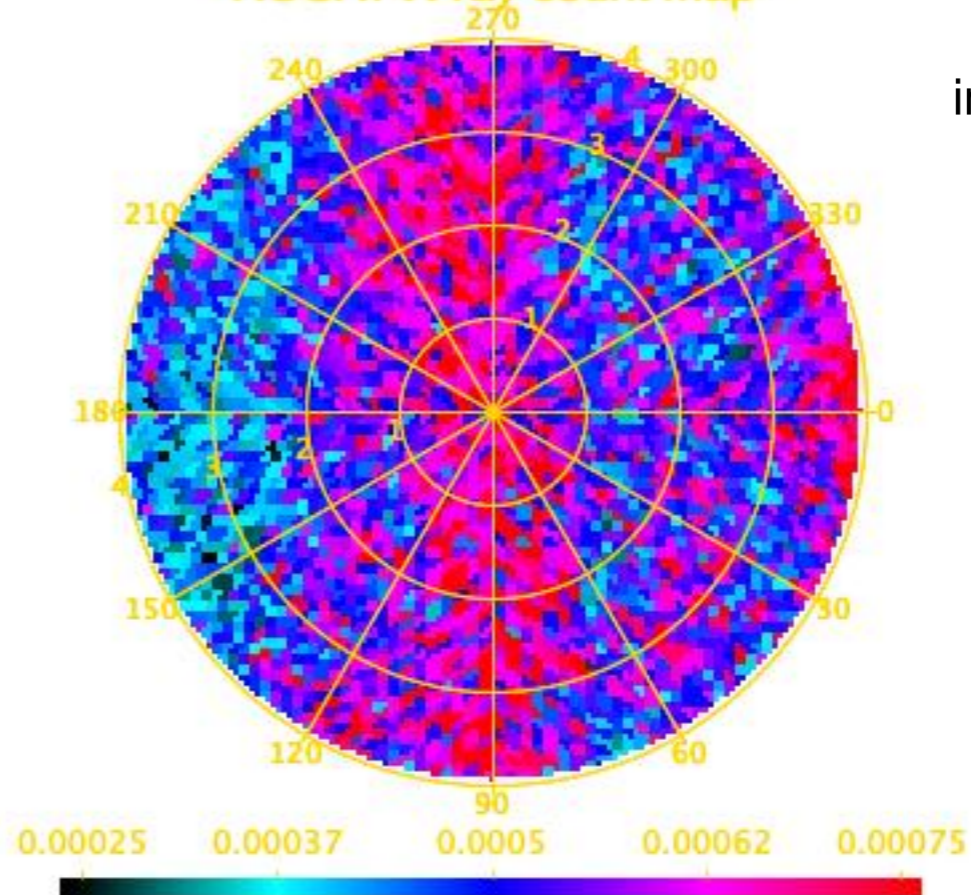
HI (21cm) Temp. (K)



SFD dust map $E(B-V)$

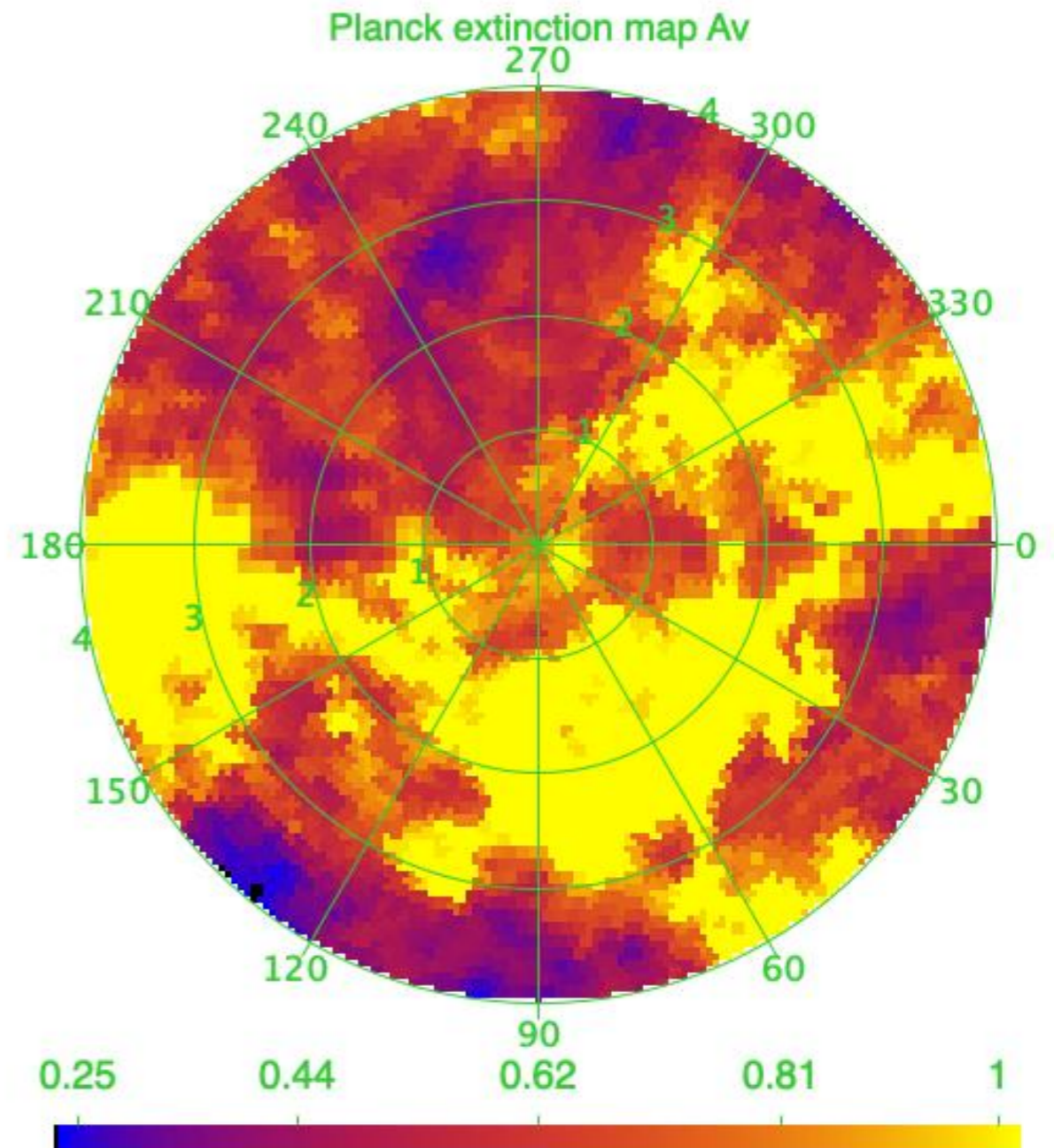
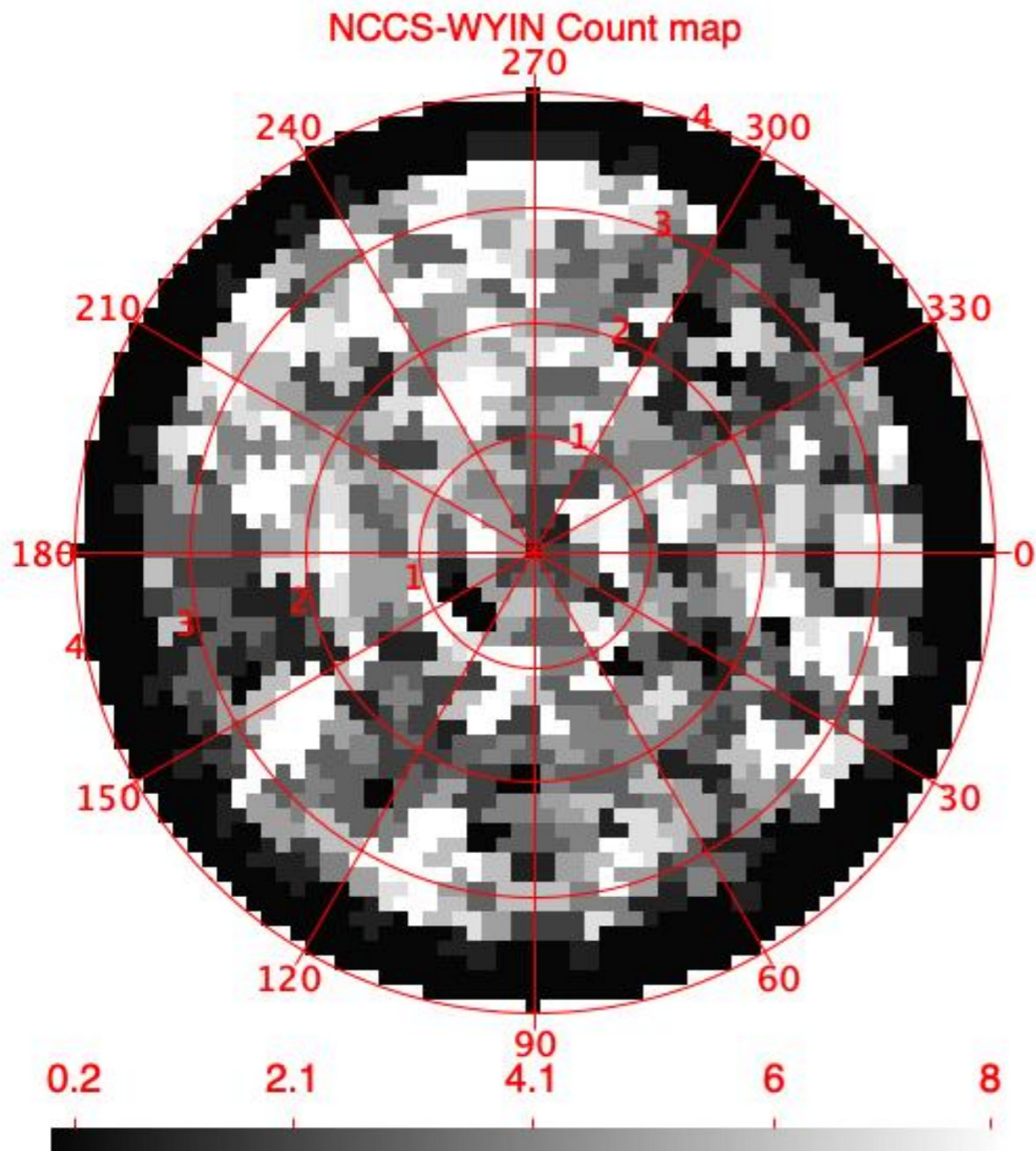


ROSAT X-ray count map



Extragalactic or
instrument (scanning)
effect

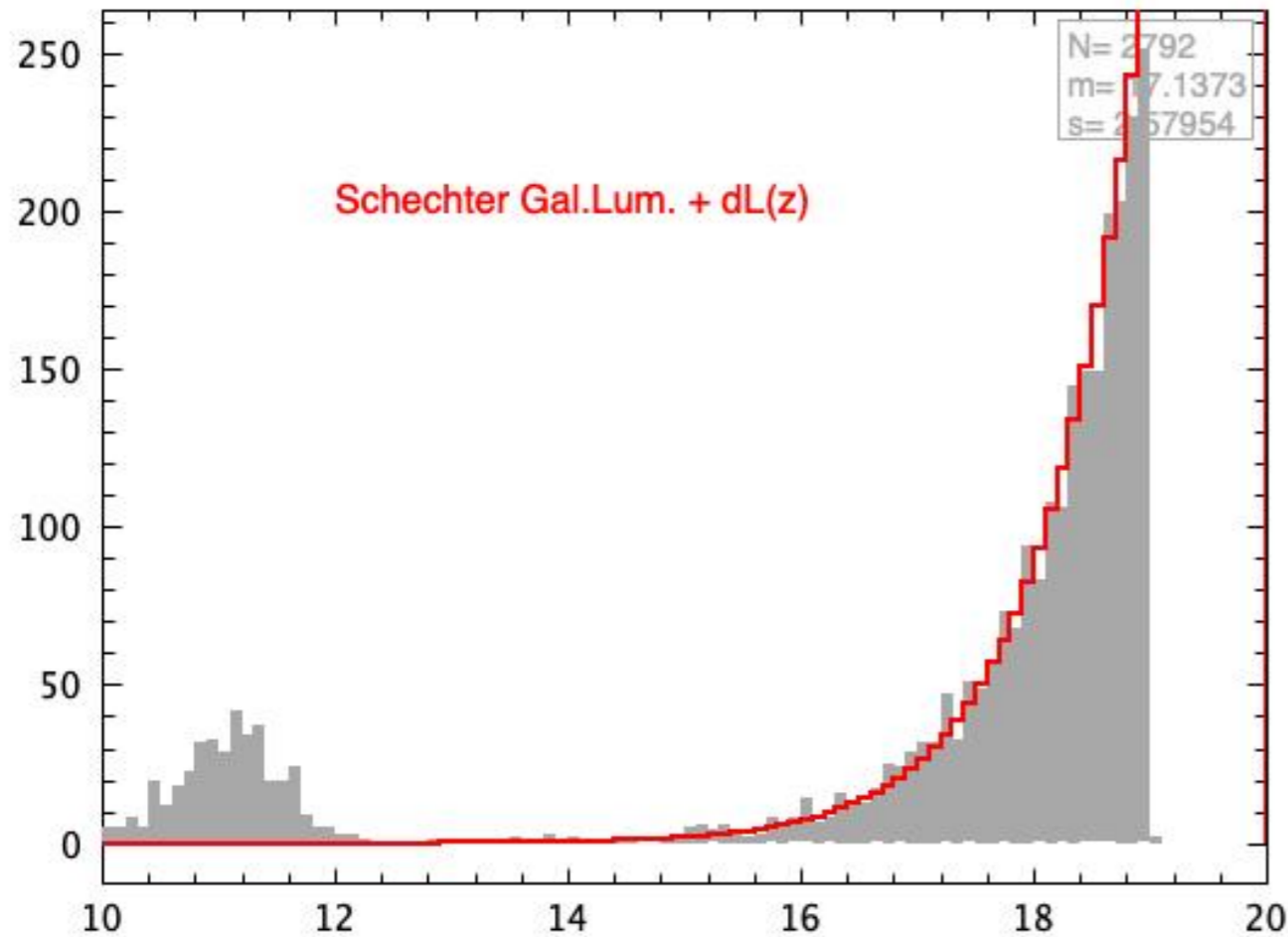
1. Extinction effect



Some possible correlation visible, need to be further checked and quantified using full NCCS catalog

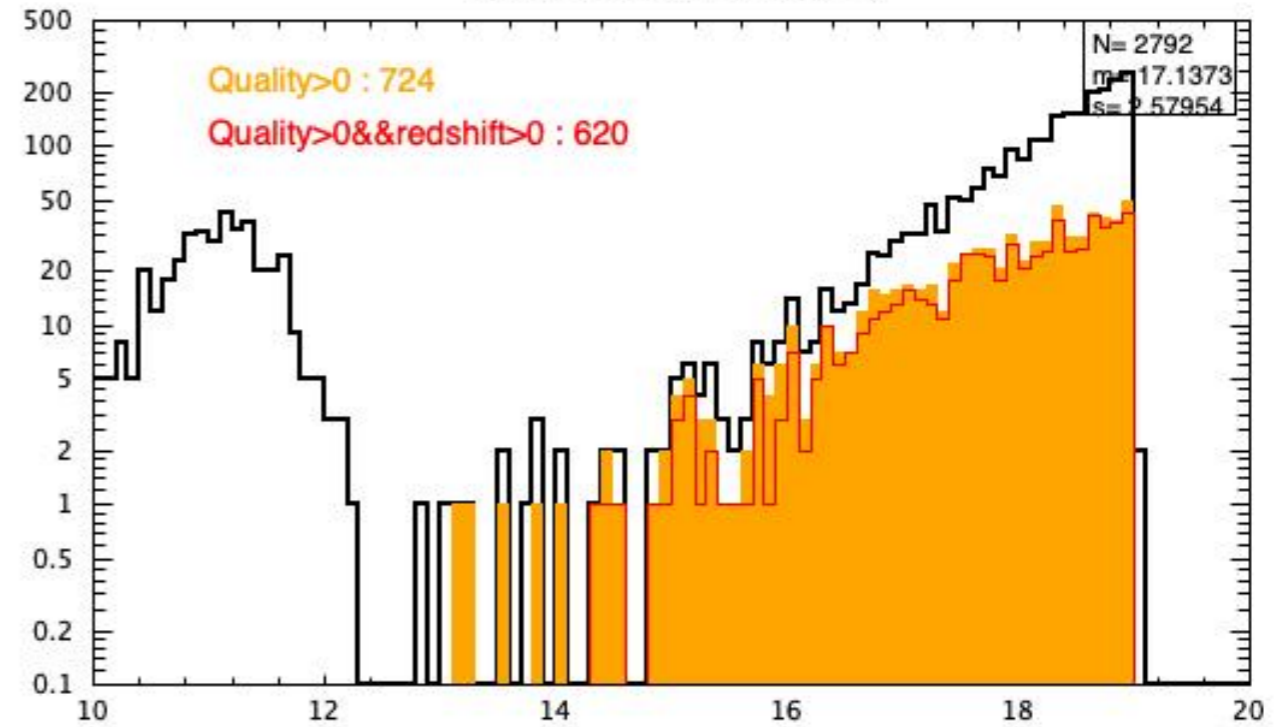
2. Catalog magnitude distribution

NCSS-WYIN targets Vmag dist, expected (red)

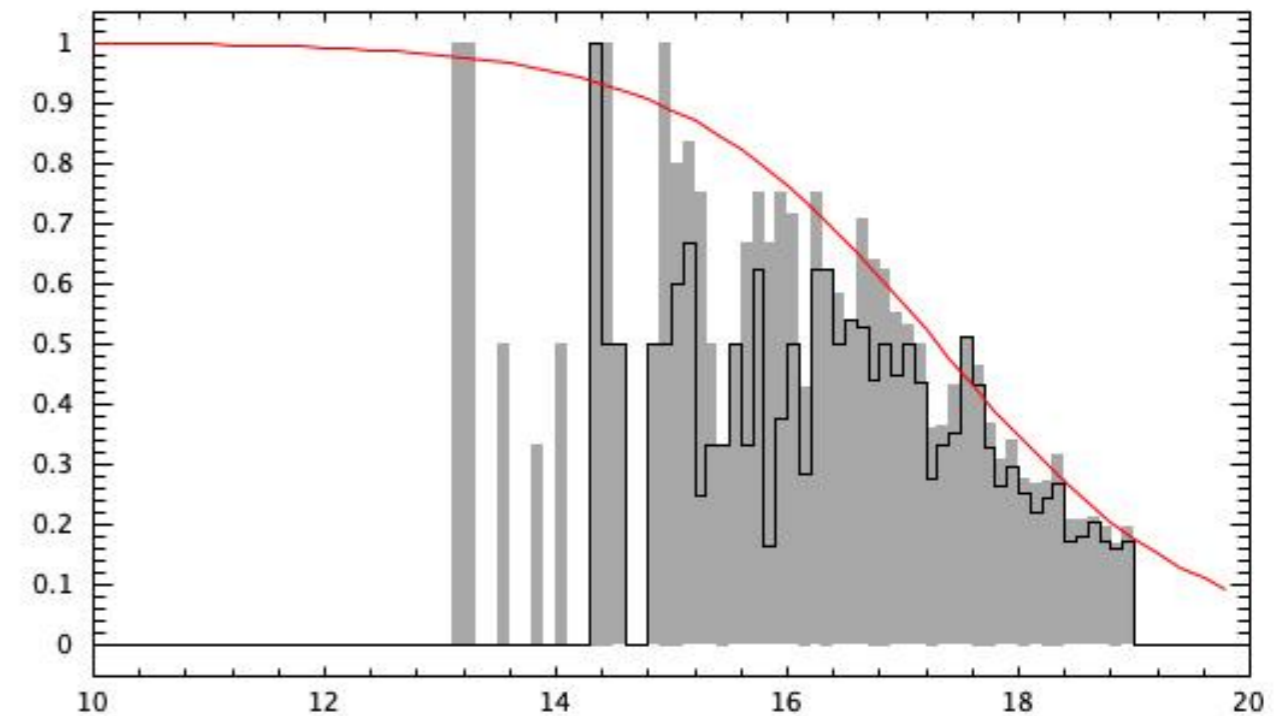


Vmag distribution well reproduced by a Schechter Gal. Lum. Function with $M^*=-20.3$, slope=-1.3 + cosmology (luminosity distance + volume element = f(redshift))

Vmag dist (all, Quality>0)

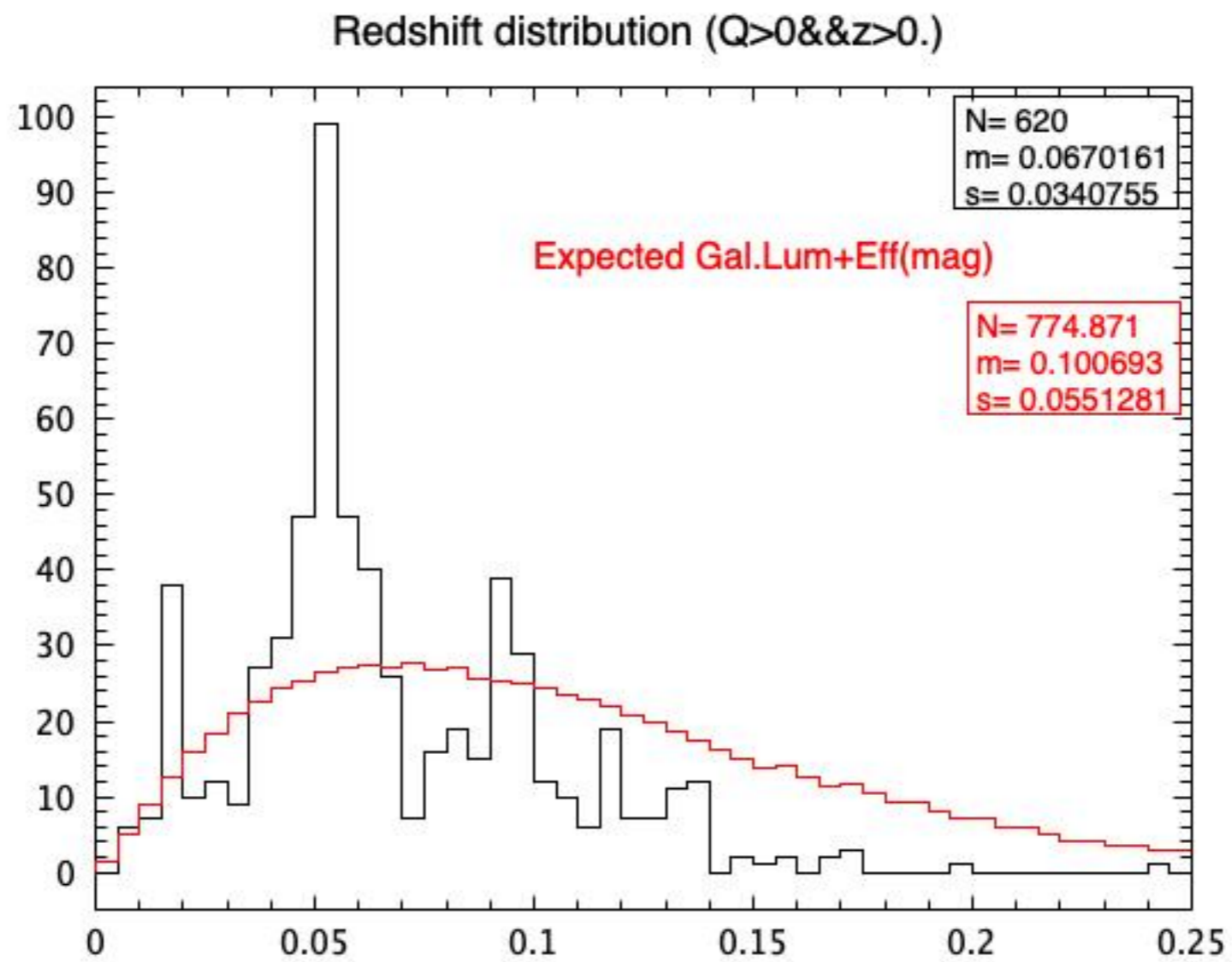


Redshift-finding efficiency = f(Vmag)

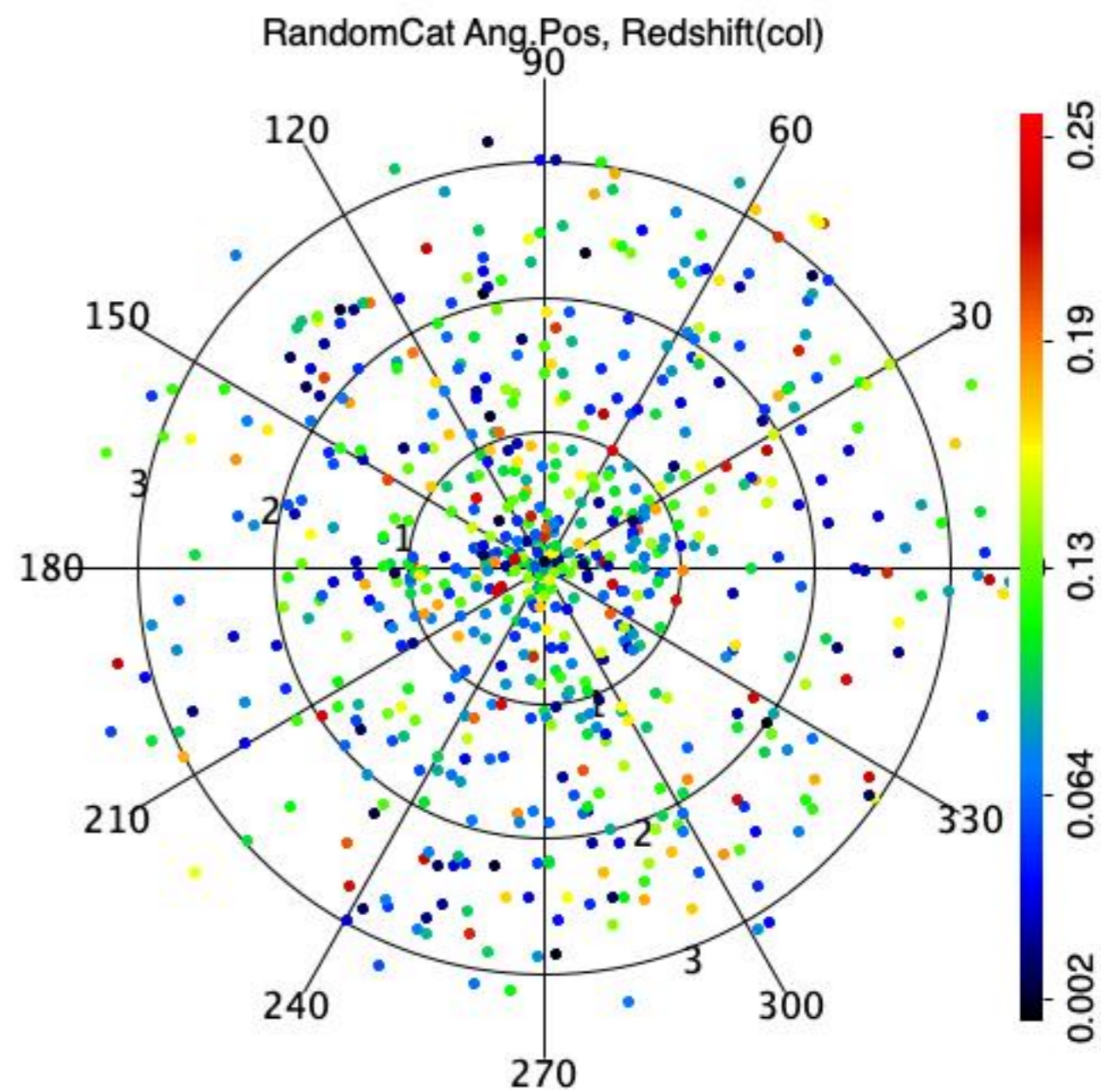
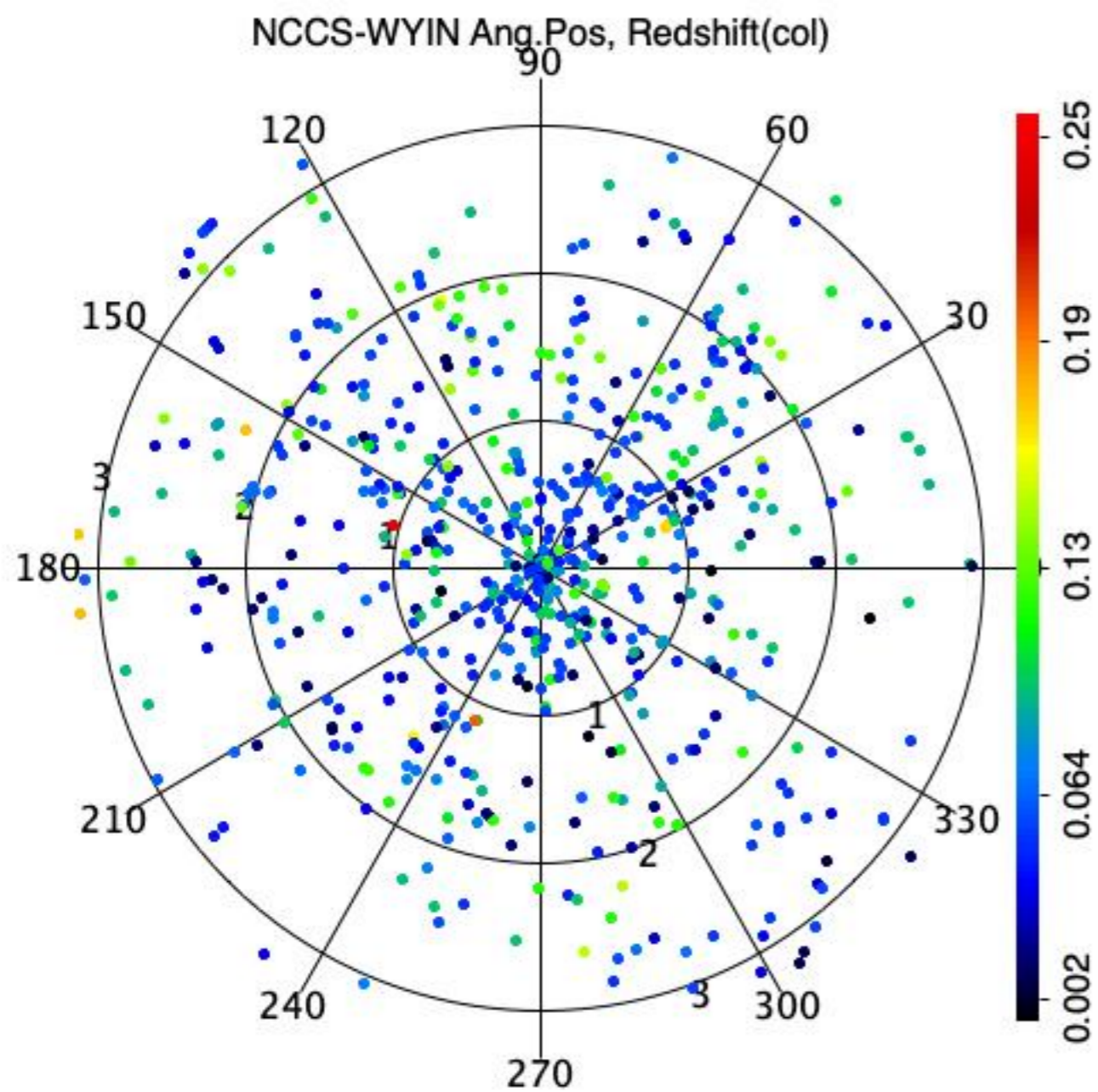


Redshift determination efficiency f(Vmag)
 $1./(\exp((Vmag-17.3)*0.9) + 1.)$

2. Redshift distribution



3. Random catalogue



3. Correlation function

