

Tianlai North Celestial Cap Redshift Survey

Motivation

Use North Celestial Cap Survey (photometric survey)

NCCS Angular Distribution

NCCS Extinction

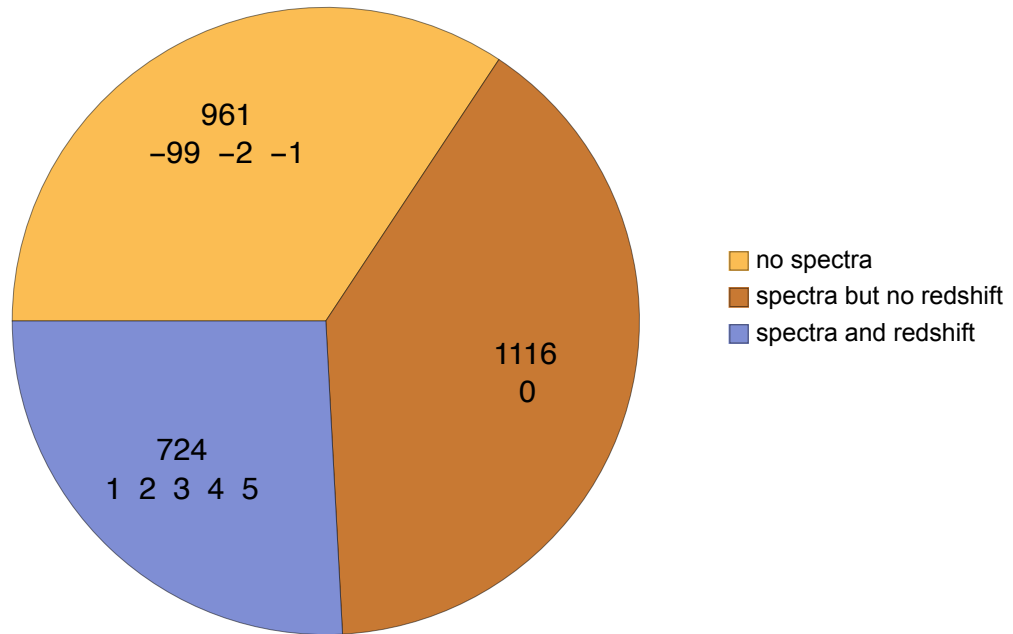
V band Extinction Distribution (for targets according to NASA Extragalactic Database)

WIYN-Hydra

Redshift Success Rate

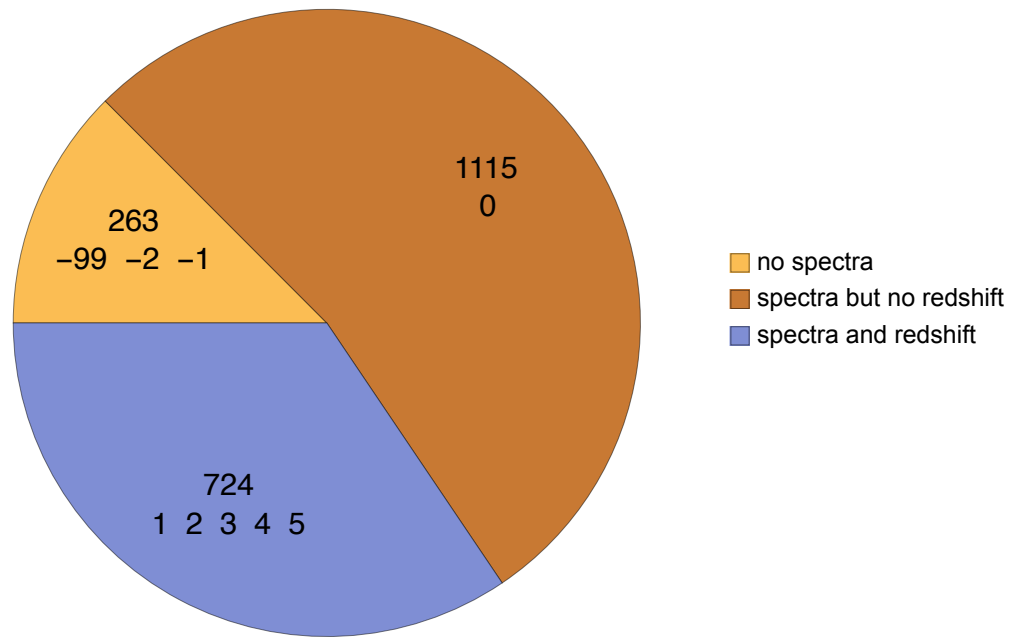
Out[*]=

2801 NCCS targets $\delta \geq 86.6^\circ$



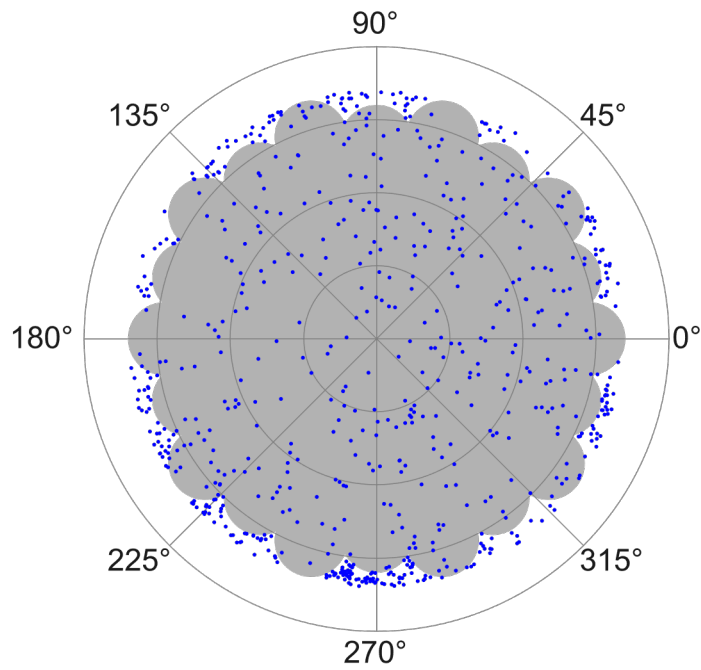
Out[]=

2102 NCCS targets in tiles $\delta \geq 86.6^\circ$



¿notile Targets?

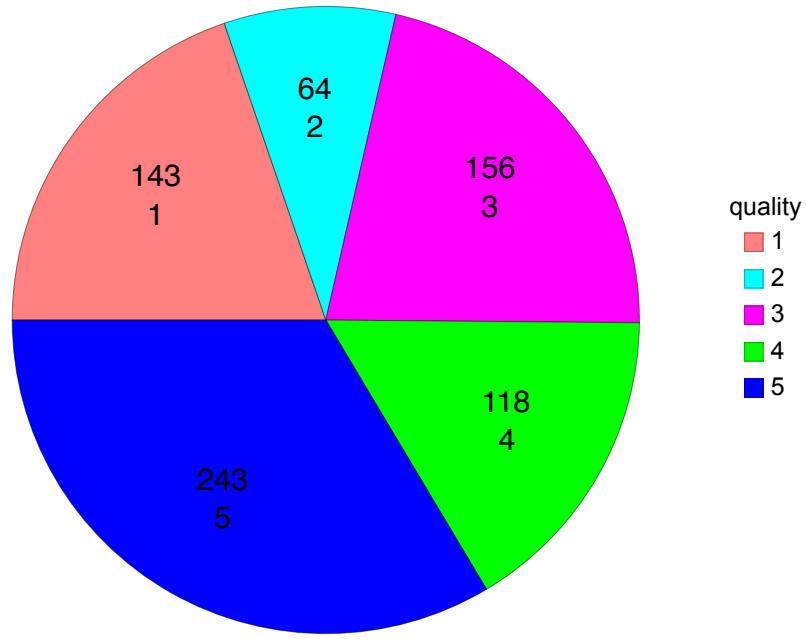
Out[]=



Redshift Quality Distribution

Out[]=

724 NCCS redshifts in tiles $\delta \geq 86.6^\circ$



Color / Magnitude / Quality Distribution

Redshift+Quality Distribution

Luminosity Function of Galaxies with Redshift vs. Century Survey Luminosity Function

Projected Angular Distribution

Projected Redshift Slices

3D RedshiftSpace

2-pt Correlation Function

Tile Quality Distribution

| tile | #target | #spect | #z | -99 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
|-------------------|---------|--------|----|-----|----|----|----|---|---|---|---|
| tile00h00m+87d06m | 44 | 30 | 8 | 12 | 1 | 1 | 22 | 1 | 2 | 2 | 0 |
| tile00h00m+87d48m | 22 | 21 | 9 | 1 | 0 | 0 | 12 | 3 | 0 | 4 | 1 |
| tile00h00m+88d30m | 30 | 21 | 11 | 2 | 6 | 1 | 10 | 4 | 1 | 4 | 0 |

| | | | | | | | | | | | |
|-------------------|----|----|----|----|----|---|----|----|---|----|---|
| tile00h00m+89d12m | 53 | 28 | 21 | 8 | 17 | 0 | 7 | 5 | 2 | 4 | 4 |
| tile00h00m+90d00m | 32 | 9 | 6 | 23 | 0 | 0 | 3 | 0 | 1 | 2 | 2 |
| tile01h12m+87d18m | 58 | 54 | 23 | 1 | 2 | 1 | 31 | 10 | 3 | 4 | 4 |
| tile01h12m+88d00m | 29 | 28 | 14 | 0 | 0 | 1 | 14 | 2 | 1 | 3 | 3 |
| tile02h24m+87d06m | 60 | 55 | 17 | 3 | 1 | 1 | 38 | 3 | 1 | 4 | 4 |
| tile02h24m+87d48m | 24 | 23 | 11 | 1 | 0 | 0 | 12 | 0 | 0 | 1 | 7 |
| tile02h24m+88d42m | 29 | 27 | 14 | 2 | 0 | 0 | 13 | 1 | 0 | 3 | 4 |
| tile03h36m+87d18m | 32 | 30 | 9 | 1 | 0 | 1 | 21 | 2 | 0 | 4 | 1 |
| tile03h36m+88d00m | 21 | 20 | 10 | 0 | 1 | 0 | 10 | 1 | 0 | 3 | 1 |
| tile04h48m+87d06m | 39 | 39 | 11 | 0 | 0 | 0 | 28 | 5 | 0 | 3 | 0 |
| tile04h48m+87d48m | 21 | 17 | 6 | 2 | 0 | 2 | 11 | 2 | 0 | 2 | 1 |
| tile04h48m+88d30m | 32 | 31 | 13 | 0 | 0 | 1 | 18 | 1 | 2 | 2 | 3 |
| tile04h48m+89d12m | 45 | 39 | 23 | 3 | 2 | 1 | 16 | 4 | 1 | 6 | 3 |
| tile06h00m+87d18m | 30 | 28 | 8 | 0 | 1 | 1 | 20 | 2 | 0 | 0 | 6 |
| tile06h00m+88d00m | 19 | 16 | 8 | 1 | 2 | 0 | 8 | 1 | 1 | 2 | 0 |
| tile07h12m+87d06m | 56 | 52 | 24 | 3 | 0 | 1 | 28 | 6 | 3 | 5 | 2 |
| tile07h12m+87d48m | 31 | 26 | 16 | 3 | 0 | 2 | 10 | 3 | 1 | 3 | 6 |
| tile07h12m+88d42m | 41 | 36 | 13 | 0 | 1 | 4 | 23 | 6 | 1 | 1 | 2 |
| tile08h24m+87d18m | 33 | 31 | 7 | 1 | 1 | 0 | 24 | 3 | 0 | 3 | 0 |
| tile08h24m+88d00m | 20 | 16 | 7 | 3 | 1 | 0 | 9 | 2 | 0 | 2 | 2 |
| tile09h36m+87d06m | 53 | 50 | 15 | 1 | 0 | 2 | 35 | 3 | 0 | 2 | 3 |
| tile09h36m+87d48m | 62 | 60 | 27 | 2 | 0 | 0 | 33 | 4 | 4 | 4 | 7 |
| tile09h36m+88d30m | 30 | 26 | 12 | 4 | 0 | 0 | 14 | 1 | 2 | 5 | 1 |
| tile09h36m+89d12m | 48 | 45 | 23 | 2 | 0 | 1 | 22 | 4 | 1 | 6 | 3 |
| tile10h48m+87d18m | 21 | 19 | 7 | 2 | 0 | 0 | 12 | 0 | 2 | 2 | 0 |
| tile10h48m+88d00m | 22 | 18 | 9 | 3 | 0 | 1 | 9 | 1 | 2 | 2 | 3 |
| tile12h00m+87d06m | 24 | 22 | 17 | 2 | 0 | 0 | 5 | 5 | 1 | 3 | 0 |
| tile12h00m+87d48m | 25 | 21 | 6 | 3 | 0 | 1 | 15 | 2 | 1 | 1 | 0 |
| tile12h00m+88d42m | 47 | 43 | 17 | 2 | 1 | 1 | 26 | 2 | 2 | 6 | 2 |
| tile13h12m+87d18m | 51 | 48 | 19 | 3 | 0 | 0 | 29 | 7 | 0 | 5 | 3 |
| tile13h12m+88d00m | 57 | 54 | 18 | 0 | 1 | 2 | 36 | 8 | 3 | 1 | 3 |
| tile14h24m+87d06m | 69 | 67 | 31 | 1 | 0 | 1 | 36 | 3 | 7 | 11 | 1 |
| tile14h24m+87d48m | 22 | 17 | 11 | 2 | 2 | 1 | 6 | 1 | 0 | 5 | 1 |
| tile14h24m+88d30m | 35 | 32 | 8 | 3 | 0 | 0 | 24 | 0 | 1 | 1 | 2 |
| tile14h24m+89d12m | 57 | 54 | 15 | 1 | 0 | 2 | 39 | 4 | 0 | 3 | 2 |
| tile15h36m+87d18m | 48 | 11 | 3 | 37 | 0 | 0 | 8 | 1 | 0 | 1 | 1 |
| tile15h36m+88d00m | 46 | 41 | 15 | 5 | 0 | 0 | 26 | 3 | 1 | 4 | 2 |
| tile16h48m+87d06m | 53 | 53 | 14 | 0 | 0 | 0 | 39 | 4 | 1 | 2 | 1 |
| tile16h48m+87d48m | 37 | 37 | 12 | 0 | 0 | 0 | 25 | 1 | 1 | 0 | 2 |
| tile16h48m+88d42m | 63 | 55 | 17 | 6 | 0 | 2 | 38 | 2 | 6 | 1 | 3 |
| tile18h00m+87d18m | 55 | 49 | 12 | 5 | 0 | 1 | 37 | 0 | 1 | 3 | 4 |
| tile18h00m+88d00m | 49 | 44 | 25 | 2 | 1 | 2 | 19 | 3 | 2 | 1 | 6 |
| tile19h12m+87d06m | 36 | 36 | 5 | 0 | 0 | 0 | 31 | 0 | 2 | 1 | 0 |
| tile19h12m+87d48m | 16 | 13 | 3 | 1 | 1 | 1 | 10 | 1 | 0 | 1 | 0 |
| tile19h12m+88d30m | 47 | 44 | 17 | 1 | 1 | 1 | 27 | 6 | 2 | 1 | 1 |
| tile19h12m+89d12m | 31 | 25 | 14 | 0 | 4 | 2 | 11 | 1 | 0 | 5 | 2 |
| tile20h24m+87d18m | 24 | 24 | 12 | 0 | 0 | 0 | 12 | 2 | 1 | 0 | 3 |
| tile20h24m+88d00m | 27 | 26 | 12 | 1 | 0 | 0 | 14 | 1 | 0 | 2 | 1 |
| tile21h36m+87d06m | 22 | 15 | 6 | 6 | 0 | 1 | 9 | 1 | 0 | 0 | 1 |
| tile21h36m+87d48m | 15 | 10 | 6 | 3 | 1 | 1 | 4 | 0 | 1 | 0 | 0 |

| | | | | | | | | | | | |
|-------------------|----|----|----|---|---|---|----|---|---|---|---|
| tile21h36m+88d42m | 42 | 38 | 13 | 3 | 0 | 1 | 25 | 3 | 0 | 6 | 2 |
| tile22h48m+87d18m | 32 | 32 | 6 | 0 | 0 | 0 | 26 | 2 | 0 | 2 | 2 |
| tile22h48m+88d00m | 35 | 33 | 8 | 1 | 1 | 0 | 25 | 0 | 0 | 2 | 0 |

Cluster Catalogs