



Figure 1: NIKA2 cluster sample (as in the LP version sent on the 31st of August) extracted from the Planck and ACT (equatorial) tSZ-selected cluster catalogues. These objects have been selected from those fulfilling our redshift (> 0.5) and observability ($\text{dec} > -11$) criteria. The selected objects are shown in the Y_{500} - z plane.

In the following tables (that correspond to the 10 boxes of the Y_{500} - z plane, Figure 1) we list in **red** the clusters that we want to replace with the **green** ones. In **yellow** those that can be interesting, but that we prefer to keep in the waiting list for the moment (they can also be good candidates for the commissioning/science verification phases). For PSZ2 the Y_{500} are computed as $Y_{5r_{500}}/1.79$. For PSZ1 we list directly the Y_{500} reported in the updated version of the catalogue.

Table 1: **Lz1**

| name | z | θ_{500} [arcmin] | $Y_{500} \times 10^{-4}$ [arcmin ²] | t_{obs} [hr] |
|-------------------|-------|-------------------------|---|----------------|
| ACTCLJ0241.2-0018 | 0.684 | 1.723 | 1.100 | 15.5 |
| ACTCLJ0219.8+0022 | 0.537 | 2.169 | 1.700 | 21.4 |
| ACTCLJ0240.0+0116 | 0.620 | 2.022 | 1.800 | 11.5 |
| ACTCLJ0218.2-0041 | 0.672 | 2.005 | 2.200 | 7.6 |
| ACTCLJ2050.5-0055 | 0.622 | 2.115 | 2.200 | 8.1 |

Table 2: **Lz2, According to Hakon (Remco Van Der Burg list), PSZ1 G104.78+40.4 is at $z=0.837$. This is not one of the clusters belonging also to the XMM program, so we can replace it, if you think it is better.**

| name | z | θ_{500} [arcmin] | $Y_{500} \times 10^{-4}$ [arcmin ²] | t_{obs} [hr] |
|--------------------|--------------|-------------------------|---|----------------|
| PSZ1 G073.22+67.57 | 0.609 | 2.311 | 3.276 | 6.2 |
| PSZ1 G104.78+40.45 | 0.690 | 2.171 | 3.453 | 5.2 |
| PSZ1 G108.26+48.66 | 0.674 (spec) | 2.193 | 3.390 | 5.4 |
| PSZ1 G086.93+53.18 | 0.675 | 2.255 | 3.961 | 4.1 |
| PSZ1 G106.15+25.76 | 0.588 | 2.486 | 4.351 | 3.9 |
| PSZ1 G094.54+51.01 | 0.539 | 2.656 | 4.757 | 5.1 |

Table 3: **Lz3**

| name | z | θ_{500} [arcmin] | $Y_{500} \times 10^{-4}$ [arcmin ²] | t_{obs} [hr] |
|--------------------|-------|-------------------------|---|----------------|
| PSZ1 G147.86+53.24 | 0.600 | 2.544 | 5.242 | 4.0 |
| PSZ1 G070.91+49.26 | 0.604 | 2.561 | 5.544 | 3.6 |
| PSZ1 G193.29-46.13 | 0.640 | 2.515 | 6.018 | 3.0 |
| PSZ1 G183.92+42.99 | 0.561 | 2.735 | 6.281 | 3.1 |
| PSZ1 G211.23+38.63 | 0.505 | 2.919 | 6.456 | 4.5 |

Table 4: **Lz4**

| name | z | θ_{500} [arcmin] | $Y_{500} \times 10^{-4}$ [arcmin ²] | t_{obs} [hr] |
|--------------------|-------|-------------------------|---|----------------|
| PSZ1 G201.50-27.34 | 0.538 | 2.905 | 7.616 | 3.2 |
| PSZ1 G144.86+25.09 | 0.584 | 2.775 | 7.680 | 2.1 |
| PSZ1 G046.13+30.75 | 0.569 | 2.818 | 7.710 | 2.1 |
| PSZ1 G209.80+10.23 | 0.677 | 2.613 | 8.792 | 1.5 |
| PSZ1 G102.86-31.07 | 0.591 | 2.837 | 8.988 | 2.3 |

Table 5: **Lz5**

| name | z | θ_{500} [arcmin] | $Y_{500} \times 10^{-4}$ [arcmin ²] | t_{obs} [hr] |
|--------------------|-------|-------------------------|---|----------------|
| PSZ1 G171.01+39.44 | 0.554 | 3.015 | 10.165 | 1.9 |
| PSZ1 G228.21+75.20 | 0.545 | 3.043 | 10.201 | 1.9 |
| PSZ1 G111.60-45.72 | 0.546 | 3.056 | 10.457 | 1.8 |
| PSZ1 G155.25-68.42 | 0.566 | 3.019 | 10.951 | 1.6 |
| PSZ2 G128.18-51.08 | 0.546 | 2.788 | 13.553 | 1.0 |

Table 6: $0.5 \leq z < 0.7$ selected sample: 25 clusters.Table 7: **H_z1**

| name | z | θ_{500} [arcmin] | $Y_{500} \times 10^{-4}$ [arcmin ²] | t_{obs} [hr] |
|-------------------|-------|-------------------------|---|----------------|
| ACTCLJ0228.5+0030 | 0.720 | 1.641 | 1.000 | 17.7 |
| ACTCLJ0250.1+0008 | 0.780 | 1.618 | 1.200 | 12.0 |
| ACTCLJ0018.2-0022 | 0.750 | 1.739 | 1.500 | 8.4 |
| ACTCLJ0058.0+0030 | 0.760 | 1.742 | 1.500 | 8.5 |
| ACTCLJ0215.4+0030 | 0.865 | 1.648 | 1.800 | 5.5 |

Table 8: **H_z2**

| name | z | θ_{500} [arcmin] | $Y_{500} \times 10^{-4}$ [arcmin ²] | t_{obs} [hr] |
|--------------------|-------|-------------------------|---|----------------|
| ACTCLJ0059.1-0049 | 0.786 | 2.002 | 3.500 | 3.0 |
| ACTCLJ0022.2-0036 | 0.805 | 2.008 | 3.800 | 2.5 |
| PSZ2 G097.52+51.70 | 0.700 | | 3.605 | |
| PSZ2 G071.82-56.55 | 0.87 | | 4.583 | |
| PSZ1 G089.04+55.07 | 0.702 | 2.215 | 4.071 | 3.8 |
| PSZ1 G226.65+28.43 | 0.724 | 2.190 | 4.209 | 3.5 |
| PSZ1 G084.04+58.75 | 0.731 | 2.213 | 4.586 | 3.0 |

Table 9: **H_z3**

| name | z | θ_{500} [arcmin] | $Y_{500} \times 10^{-4}$ [arcmin ²] | t_{obs} [hr] |
|--------------------|-------|-------------------------|---|----------------|
| PSZ1 G065.13+57.53 | 0.720 | 2.295 | 5.322 | 2.3 |
| PSZ1 G091.82+26.11 | 0.822 | 2.192 | 6.306 | 1.6 |
| PSZ1 G048.09+27.18 | 0.736 | 2.355 | 6.553 | 1.6 |
| PSZ1 G224.73+33.65 | 0.768 | 2.303 | 6.647 | 1.5 |
| PSZ1 G141.73+14.22 | 0.830 | 2.209 | 6.789 | 1.4 |

Table 10: **H_z4, PSZ1 G140.10+50.09 from Remco Van Der Burg list (Hakon redshift, nothing in the PSZ catalogues).**

| name | z | θ_{500} [arcmin] | $Y_{500} \times 10^{-4}$ [arcmin ²] | t_{obs} [hr] |
|--------------------------------------|-------|-------------------------|---|----------------|
| PSZ1 G183.26+12.25 | 0.850 | 2.226 | 7.637 | 1.1 |
| PSZ1 G080.66-57.87 (CL1227) | 0.705 | 2.518 | 8.182 | 1.6 |
| PSZ2 G160.83+81.66 | 0.888 | 1.907 | 9.043 | 1.0 |
| PSZ1 G138.60-10.85 | 0.702 | 2.618 | 9.669 | 1.2 |
| PSZ1 G140.10+50.09 | 0.772 | | | |
| PSZ2 G087.39+50.92 | 0.748 | | 8.45 | |

Table 11: **H_z5**

| name | z | θ_{500} [arcmin] | $Y_{500} \times 10^{-4}$ [arcmin ²] | t_{obs} [hr] |
|---|------|-------------------------|---|----------------|
| PSZ2 G208.57-44.31 (dec=-15!!!!) | 0.85 | | 10.89 | |