Example of an exploitation of electronic tabular data:

ACO cluster redshift compilation "ZACO"

"ZACO": Redshift compilation of ACO clusters
H. Andernach & E. Tago (Estonia)
in progress since 1989 ...

most quoted ACO cluster z-compilation:
Struble & Rood 1999 (prev. 1982, 1987, 1991)

The Astrophysical Journal Supplement Series, 125:35-71, 1999 November

A Compilation of Redshifts and Velocity Dispersions for ACO Clusters

= "SR99"

Mitchell F. Struble[1] and Herbert J. Rood[2]

1572 A-clusters
395 σ_v's
however: 43% with $N_z \geq 3$

Received 1999 March 1; accepted 1999 May 13

ABSTRACT

We present a compilation of redshifts for 1572 Abell, Corwin, & Olowin (ACO) clusters, referenced to both the heliocentric and cosmic background radiation reference frames, and 395 velocity dispersions corrected to the reference frame of the cluster, available from the literature as of 1998 December. We present an additional list of 81 ACO clusters with published redshifts which are probably those of galaxies or groups superimposed on, or near, the ACO cluster position.

Subject headings: galaxies: clusters: general—galaxies: distances and redshifts

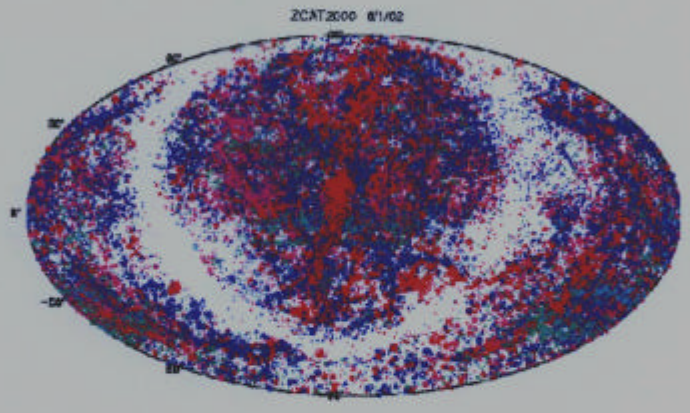
[1] Lockheed Martin, Philadelphia, PA
[2] P.O. Box 1330, Princeton, NJ

Our compilation:	ΣN_z	distinct clusters		% $N_z \geq 3$	N_σ	$N_z \geq 50$	
May '97	21,200	1669 (A)		40%	390	~78	A-cl.
		405 (S)		47%	134	~12	S-cl.
Jun '03	46,800	2330 (A)		58%	1002	183	A-cl.
		586 (S)		59%	237	28	S-cl.

! In May '97 we had more z's than SR in Mar '99 !

THE CENTER FOR ASTROPHYSICS REDSHIFT CATALOG

Sky Distribution of ZCAT2000 Entries



Plot of the distribution on the sky of all entries in ZCAT as of June 2002. Colors are red v < 3000, blue 3000< v < 7000, magenta 7000 < v < 12000, cyan 12000 < v < 25000, and green 25,000 < v < 100,000 km/s. Point size is a function of apparent magnitude. The green bands represent the well studied regions of the LCRS and 2dF surveys and the Century Survey (from a program by J. Mader).

ERRORS IN ZCAT : e.g. missing DEC sign for -00°

From: Heinz Andernach <heinz@abell.astro.ugto.mx>
Date: Mon, 2 Sep 2002 19:41:46 -0500 → HUCHRA & KURTZ → NO reply!
To: francois@simbad.u-strasbg.fr, heinz@abell.astro.ugto.mx,
huchra@cfa.harvard.edu, kurtz@cfa.harvard.edu
Subject: a bug for A1689 in ZCAT?

Dec 2002: error persists

Jun/Jul 2003: ZCAT inaccessible

Dear John, Mike and Francois,

accidentally, when trying to merge available redshifts for the Abell cluster A1689, I found a problem in ZCAT with the declination sign for galaxies taken from ref. 1702:

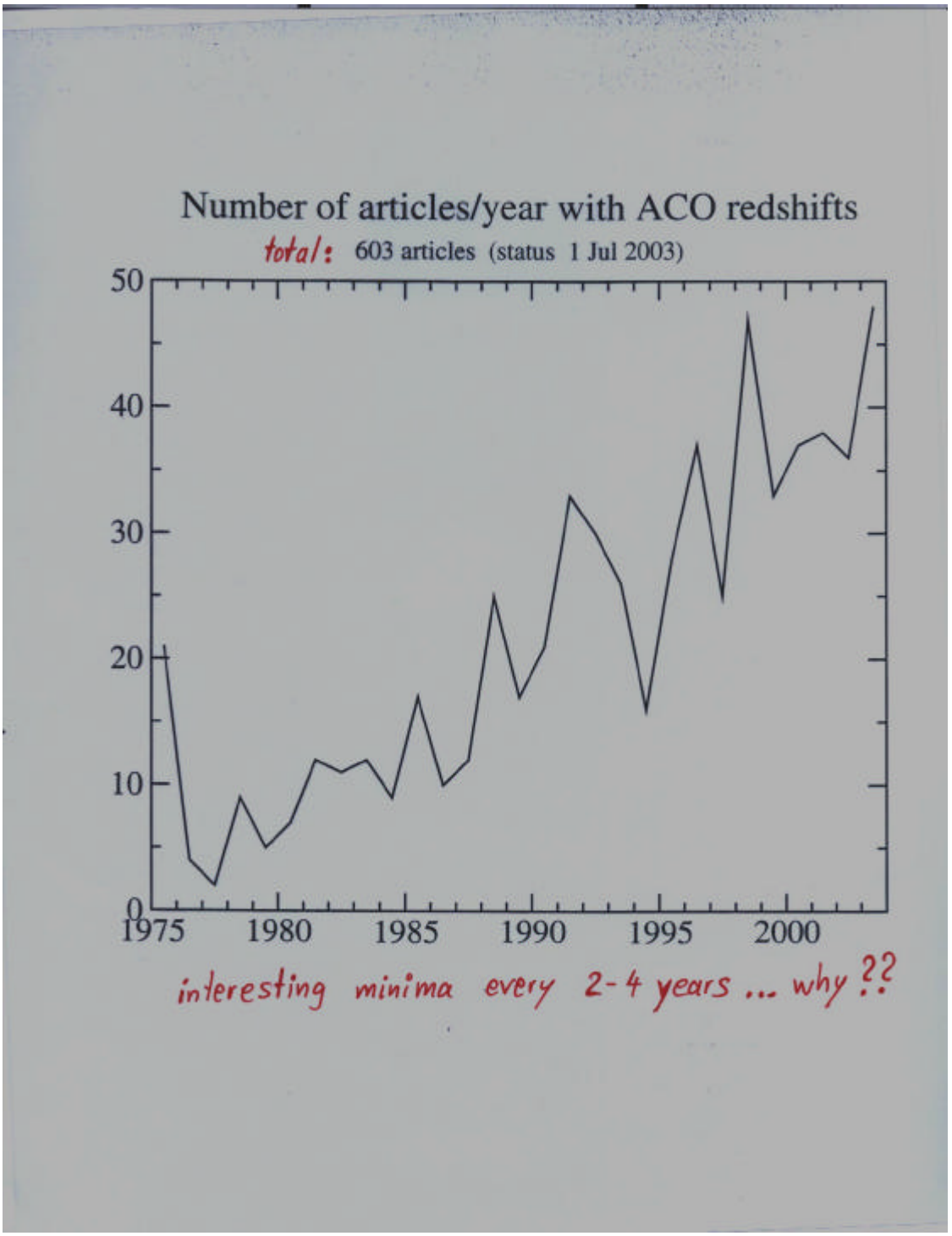
Teague, P.F., Carter, D., \& Gray, P.M. 1990, ApJS {\bf 72}, 715. %(Rich Clusters)

At least in SOME previous versions of ZCAT (including the latest one I know about, of Feb 2000, it seems that all galaxies from this reference between 0 and -1 deg DEC, have the negative DEC sign MISSING. If I extract the lines with the string "A1689" from ZCAT_feb2000, I obtain:

α_{2000}	δ_{2000}		REF	
13002+0055	130009.9	00555615.6012176	2013542	A1689-85
A1307-0103A	130746.4	-010328 0.0024638128	1702	A1689-28
A1307-0103B	130746.5	-010320 0.0025398 90	1702	A1689-29
A1307-0107	130751.5	-010728 0.0041190124	1702	A1689-24a
A1307-0103C	130751.5	-010309 0.0099125117	1702	A1689-32a,POOR VEL
A1307-0106	130752.0	-010648 0.0041828105	1702	A1689-25
A1307-0102	130754.4	-010257 0.0041444 58	1702	A1689-33
A1307-0112	130755.6	-011254 0.0055491 66	1702	A1689-119
A1307-0105A	130756.2	-010528 0.0041991 49	1702	A1689-26
A1307-0105B	130757.5	-010521 0.0025690 44	1702	A1689-27
A1307+0056	130758.8	005654 0.0025281123	1702	A1689-41
A1308+0057A	130801.3	005707 0.0041030126	1702	A1689-41a
A1308-0101A	130801.4	-010115 0.0025380 85	1702	A1689-34
A1308-0103A	130803.0	-010322 0.0036722 78	1702	A1689-34a,POOR VEL
A1308+0050A	130804.9	005039 0.0036298106	1702	A1689-46
A1308+0059A	130806.8	005901 0.0042067 93	1702	A1689-40
A1308-0102A	130807.6	-010223 0.0041713 90	1702	A1689-35
A1308-0106A	130813.6	-010648 0.0033791 87	1702	A1689-20
A1308-0106B	130813.8	-010655 0.0033484 53	1702	A1689-19
A1308+0050B	130820.3	005009 0.0056308144	1702	A1689-47
A1308-0106C	130824.3	-010600 0.0054348 88	1702	A1689-18
A1308-0108A	130825.0	-010812 0.0033745 60	1702	A1689-21
A1308-0107A	130825.2	-010701 0.0034621143	1702	A1689-17
A1308+0055	130832.4	005522 0.0051809151	1702	A1689-55
A1308-0107B	130832.6	-010720 0.0033789119	1702	A1689-16
A1308+0058A	130833.8	005819 0.0064181 93	1702	A1689-48
A1308-0101B	130834.5	-010131 0.0055655 67	1702	A1689-38
A1308-0111	130838.4	-011108 0.0033910 59	1702	A1689-112
A1308-0116	130839.3	-011628 0.0033701101	1702	A1689-113
A1308-0103B	130839.3	-010339 0.0053636 37	1702	A1689-9
A1308-0103C	130839.8	-010301 0.0053463 53	1702	A1689-261
A1308-0105A	130840.2	-010559 0.0056467 68	1702	A1689-267
A1308+0058B	130840.4	005833 0.0056606 86	1702	A1689-49
A1308-0106D	130843.6	-010652 0.0052875 63	1702	A1689-266
A1308-0108B	130843.6	-010825 0.0054249 95	1702	A1689-15

galaxies in A1689

$\delta_{00} = -01°06'$


Number of articles/year with ACO redshifts
total: 603 articles (status 1 Jul 2003)
50
40
30
20
10
0
1975
1980
1985
1990
1995
2000
interesting minima every 2-4 years ... why ??

June 2001 : first data release (100,000 galaxies)
Dec / Sept 2001 : de Propis et al. used 88% set (195,000 galaxies) → z, σ_v: 431 ACO clusters
April 2002 : last spectra taken
June 2003 : final release of individual redshifts

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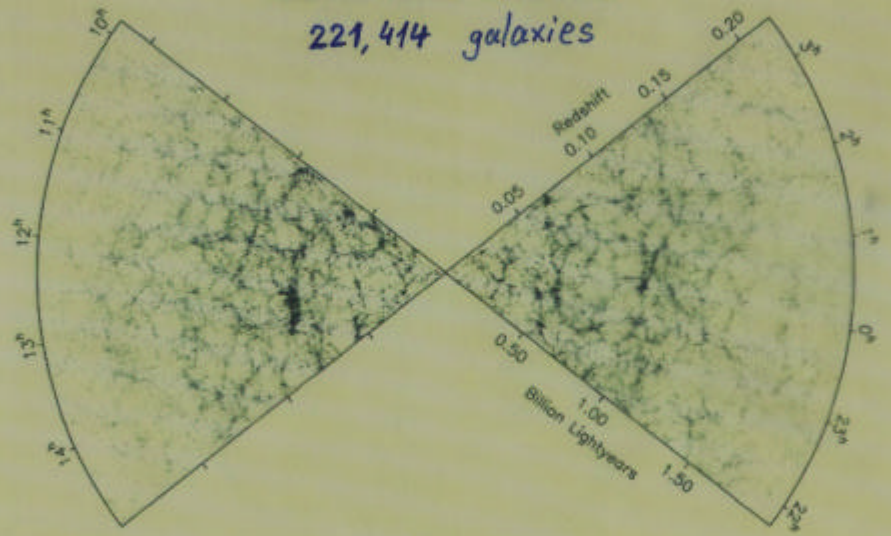
2dFGRS Team

The 2dF Galaxy Redshift Survey

Final Data Release - 30 June 2003

221,414 galaxies



Matthew Colless, colless@mso.anu.edu.au, Sun 22 Jun 2003, 495th access

⇒ merge / revise $N_z, \langle z \rangle, \sigma_v$ for ~210 ACO clusters !

http://www.sdss.org/dr1/ Search

Bookmarks The Mozilla Or... SuSE - The Lin...

SDSS Data Release 1

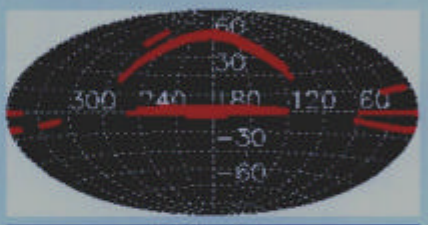
Sloan Digital Sky Survey

The Sloan Digital Sky Survey (see www.sdss.org for general information) will map one-quarter of the entire sky and perform a redshift survey of galaxies, quasars and stars. The DR1 is the first major data release and provides images, imaging catalogs, spectra, and redshifts for download.

This release contains the "beta" processing of the DR1 data set. About DR1 explains what we mean by "beta".

Please refer to the credits page for our sources of funding, participating institutions, how to acknowledge the use of SDSS data in your publications. Please also note how to refer to SDSS sources in your publications using the proper IAU nomenclature for SDSS sources.

News: A hardware failure has made some data unavailable. More...



SDSS DR1 Imaging Sky Coverage (Aitoff projection of Equatorial coordinates)

SDSS DR1 Spectral Sky Coverage (Aitoff projection of Equatorial coordinates)

Imaging

Footprint area	2099 sq. deg.					
Imaging catalog	53 million unique objects					
Data volume	images	2.338 TB				
	catalogs	0.462 TB				
Magnitude limits (95% detection repeatability for point sources)	*u*	*g*	*r*	*i*	*z*	
	22.0	22.2	22.2	21.3	20.5	

Radio-Excess *IRAS* Galaxies: PMN/FSC Sample Selection

N=178

Example of paper apparently unrelated to ACO redshifts

Catherine L. Drake[1,2], Peter J. McGregor[1], Michael A. Dopita[1], and W. J. M. van Breugel[3]

cdrake,peter,mad@mso.anu.edu.au,vanbreugel1@llnl.gov

↳ 40 new z's

↳ 9 obj towards ACO

2 ACO clusters with no previous z

ABSTRACT

A sample of 178 extragalactic objects is defined by correlating the 60 μm IRAS FSC with the 5 GHz PMN catalog. Of these, 98 objects lie above the radio/far-infrared relation for radio-quiet objects. These radio-excess galaxies and quasars have a uniform distribution of radio excesses with no evidence for a radio-loud correlation equivalent to the well known radio-quiet radio/far-infrared relation. The radio-intermediate objects appear to be a new population of active galaxies not present in previous radio/far-infrared samples chosen using more stringent far-infrared criteria. The radio-excess objects extend over the full range of far-infrared luminosities seen in extragalactic objects, from low luminosity galaxies with $\nu L_\nu(60\ \mu\mathrm{m}) < 10^9\ L_\odot$ to ultra-luminous infrared galaxies with $\nu L_\nu(60\ \mu\mathrm{m}) > 10^{12}\ L_\odot$. Objects with small radio excesses are more likely to have far-infrared colors similar to starbursts, while objects with large radio excesses have far-infrared colors typical of pure AGN. Some of the most far-infrared luminous radio-excess objects have the highest far-infrared optical depths. These are good candidates to search for hidden broad line regions in polarized light or via near-infrared spectroscopy. Some low far-infrared luminosity radio-excess objects appear to derive a dominant fraction of their far-infrared emission from star formation, despite the dominance of the AGN at radio wavelengths. Many of the radio-excess objects have sizes likely to be smaller than the optical host, but show optically thin radio emission, rather than flat radio spectra indicative of compact quasar cores. We draw parallels between these objects and high radio luminosity Compact Steep-Spectrum (CSS) and GigaHertz Peaked-Spectrum

Table 1—Continued

PMN Name (2)	Position[a] RA (J2000) (3)	DEC (4)	Ref. (5)	S_ν(25 μm) (Jy) (6)	S_ν(60 μm) (Jy) (7)	S_ν(8 GHz) (mJy) (8)	S_ν(5 GHz) (mJy) (9)	Ref. (10)	z (11)	Ref. (12)	Identification (13)
PMNJ0445-1914	04 45 43.1	-19 14 47	PMN	4.034	32.960	...	114.0	PMN	0.0045	NED	NGC 1672
PMNJ0448-0618	04 48 37.1	-06 19 13	NVSS	0.667	5.952	...	45.0	PMN	0.0152	NED	NGC 1667
PMNJ0453-6306	04 53 31.3	-63 06 32	NVSS	<0.113	0.776	...	103.0	CAB	0.0150	NED	NGC 1684
PMNJ0507-3731	05 07 42.2	-37 30 49	CAB	16.140	87.810	...	154.0	CAB	0.0027	NED	NGC 1808
PMNJ0522-3626	05 22 57.9	-36 27 32	CAB	0.158	0.207	3836.0	5740.0	ATCA	0.0553	NED	Q0521-365
PMNJ0527+0105	05 27 16.0	+01 06 01	CAB	0.544	2.474	...	177.0	CAB	0.0969	NED	IRAS 05246+0103
PMNJ0527-4718	05 27 55.9	-47 18 28	ATCA	0.074	0.902	141.4	48.0	ATCA	0.1340	DBS	IRAS 05265-4720
PMNJ0533-2156	05 33 21.6	-21 56 45	NVSS	0.722	7.976	...	55.0	PMN	0.0035	NED	NGC 1964
PMNJ0536-4405	05 36 50.4	-44 05 09	ATCA	0.220	0.418	2388.0	2286.0	ATCA	0.8940	NED	PKS 0537-441
PMNJ0553-0727	05 53 11.2	-07 27 24	CAB	0.840	4.129	...	163.0	CAB	0.0076	NED	NGC 2110
PMNJ0559-5027	05 59 47.4	-50 26 52	ATCA	0.681	0.210	73.6	85.2	ATCA	0.1370	NED	Q0558-504
PMNJ0602-7102	06 02 46.4	-71 02 48	PMN	0.574	5.127	...	61.0	PMN	0.0795	NED	IRAS 06035-7102
PMNJ0603-7934	06 03 06.0	-79 34 51	ATCA	<0.068	0.319	268.0	508.6	ATCA	0.2870	DBS	PKS 0606-79
PMNJ0611-1923	06 11 17.3	-19 23 00	ATCA	0.210	0.136	6.9	9.4	ATCA	0.1340	R150	... A3383
PMNJ0618-2122	06 18 22.8	-21 22 21	PMN	1.548	14.530	...	94.0	CAB	0.0086	NED	3C 2163
PMNJ2303+0852	23 03 15.5	+08 52 26	CAB	0.840	27.680	...	61.0	CAB	0.0163	NED	NGC 7469
PMNJ2310-5941	23 10 26.5	-59 41 11	ATCA	<0.360	0.713	176.7	154.3	ATCA	0.1410	DBS	IRAS 23076-5957
PMNJ2314+0431	23 14 44.0	+04 32 02	CAB	1.390	20.590	...	48.0	CAB	0.0089	NED	NGC 7541
PMNJ2316-4234	23 16 08.0	-42 34 52	PMN	13.160	72.030	...	120.0	PMN	0.0053	NED	NGC 7552
PMNJ2316-4729	23 16 27.0	-47 29 24	ATCA	<0.084	0.231	215.3	366.3	ATCA	0.4770	NED	PKS 2313-477
PMNJ2316+0405	23 16 35.2	+04 05 18	CAB	<0.185	0.602	...	1348.0	CAB	0.2199	NED	3C 459
PMNJ2318-4221	23 18 22.7	-42 21 40	PMN	0.436	99.100	...	143.0	PMN	0.0052	NED	NGC 7582
PMNJ2327+0846	23 27 56.6	+08 46 45	CAB	1.896	3.588	...	67.0	CAB	0.0290	NED	NGC 7674
PMNJ2341+0317	23 41 30.3	+03 17 27	CAB	<0.349	1.333	...	196.0	CAB	0.1480	NED	PKS 2338+03
PMNJ2341-6122	23 41 43.6	-61 22 53	ATCA	0.344	3.628	34.7	57.1	ATCA	0.0927	NED	IRAS 23383-6139
PMNJ2344-8648	23 44 16.2	-86 48 33	ATCA	0.504	0.221	34.0	104.7	ATCA	0.1060	DBS	PKS 2340-870
PMNJ2350-7350	23 50 12.1	-73 50 32	ATCA	<0.071	0.177	12.6	14.6	ATCA	0.1050	DBS	S1149
PMNJ2351-0109	23 51 56.2	-01 09 16	NVSS	<0.230	0.241	...	689.0	PMN	0.1740	NED	Q2349-014
PMNJ2359-7614	23 59 06.5	-76 14 49	ATCA	<0.053	0.393	19.3	26.0	ATCA	0.0820	DBS	

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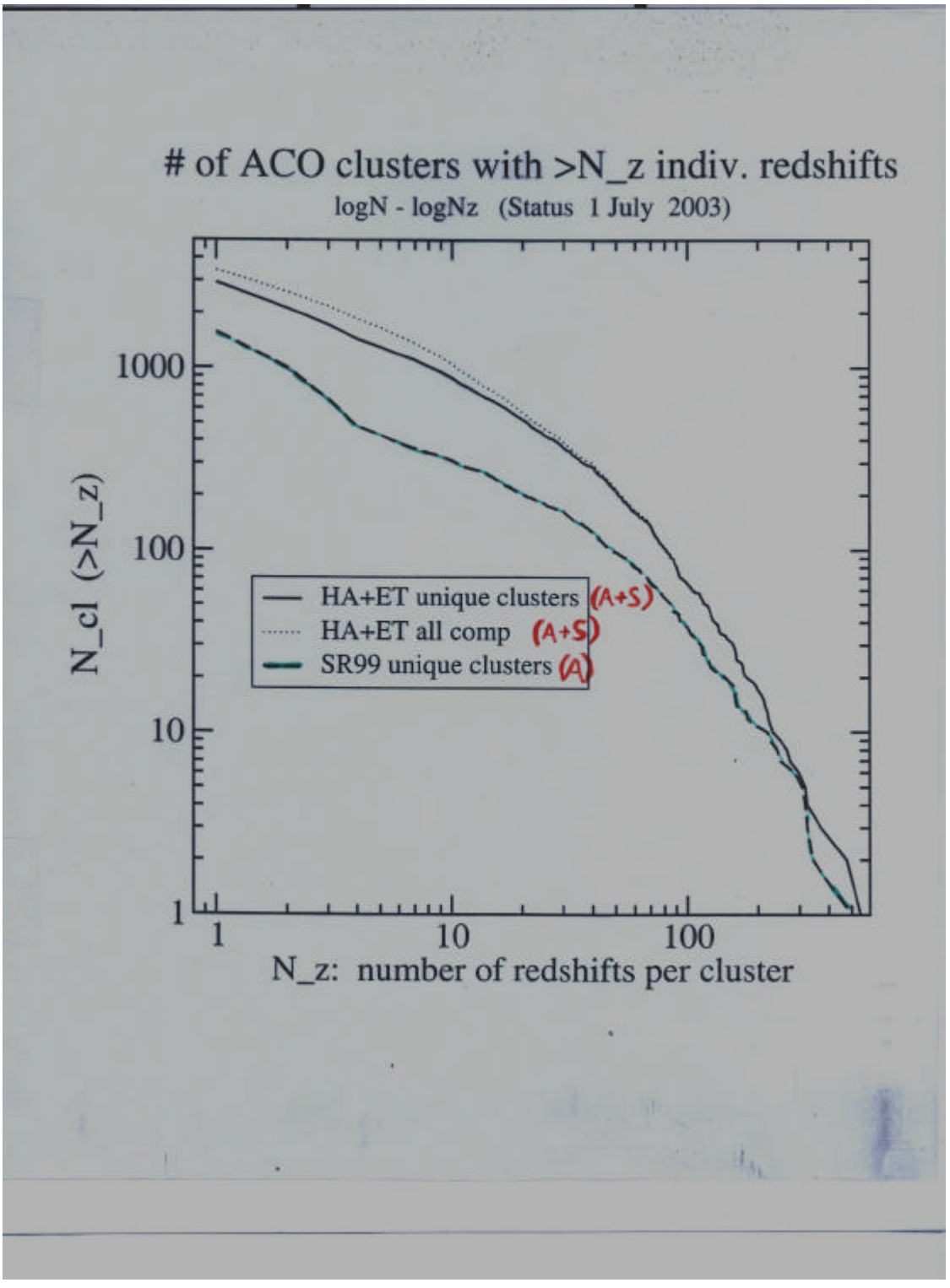
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N_cl (>N_z)
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100
10
1
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10
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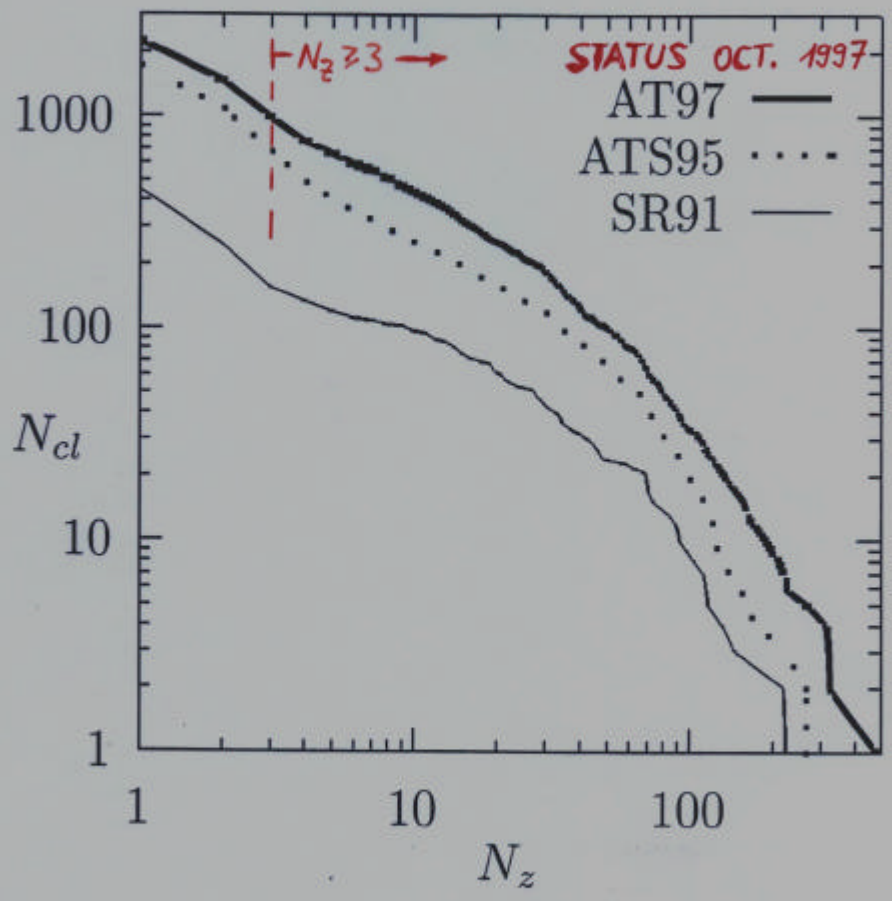
N_z: number of redshifts per cluster
HA+ET unique clusters (A+S)
HA+ET all comp (A+S)
SR99 unique clusters (A)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N_{cl}
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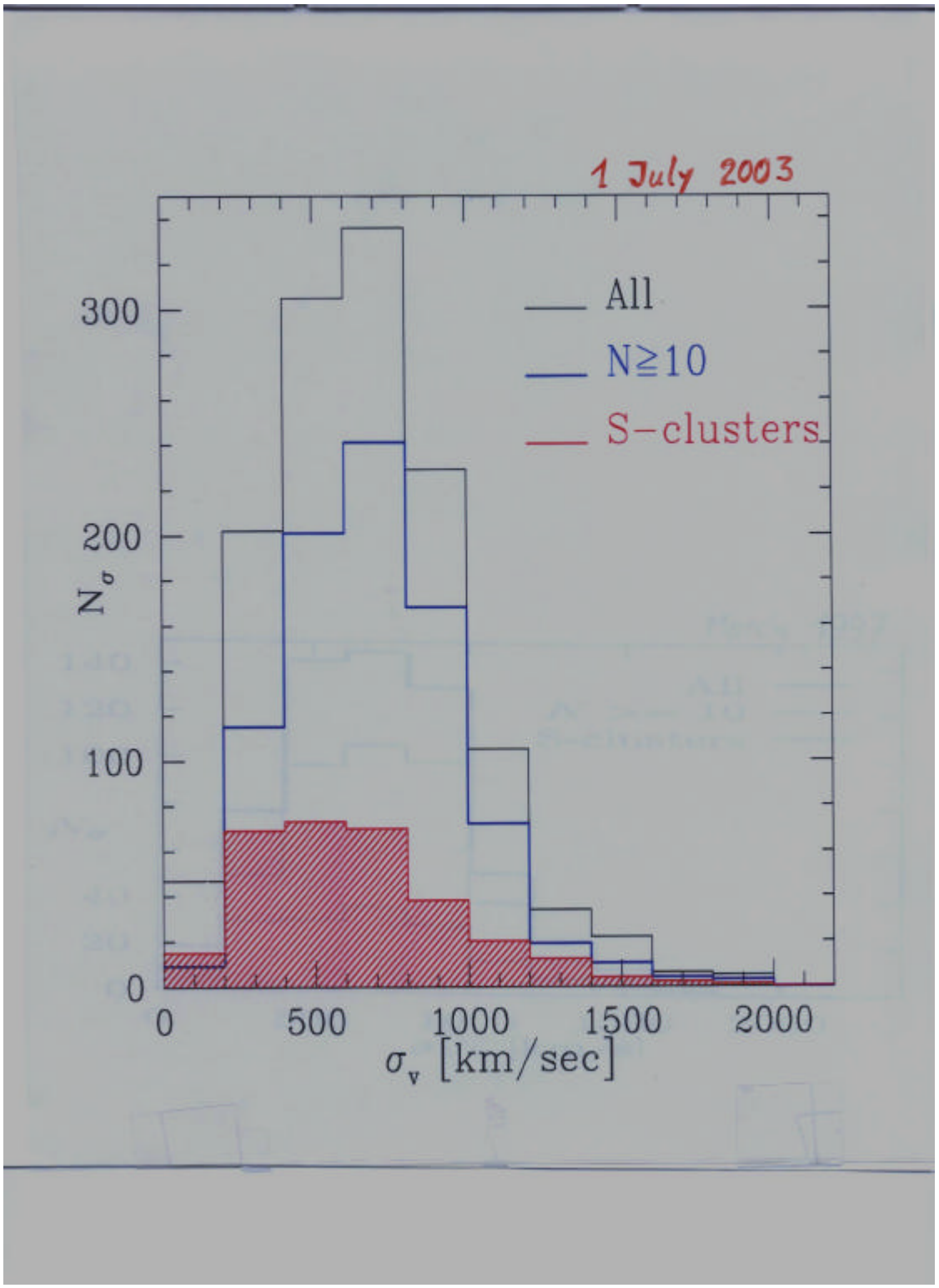
N_z


1 July 2003
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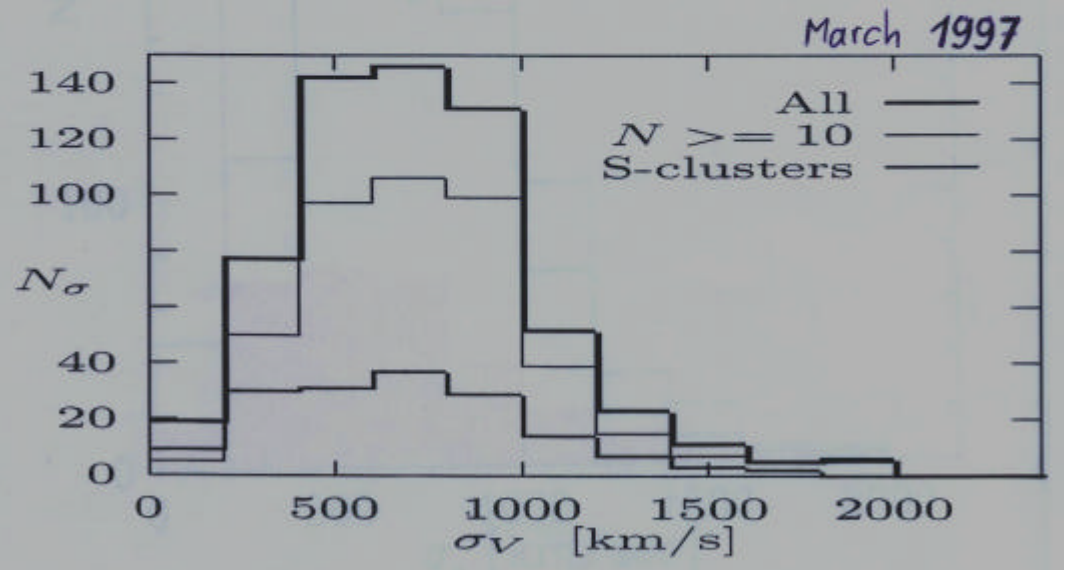
S-clusters
300
200
100
0
N_c
0
500
1000
1500
2000
σ_v [km/sec]


March 1997
All
$N >= 10$
S-clusters
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120
100
N_σ
40
20
0
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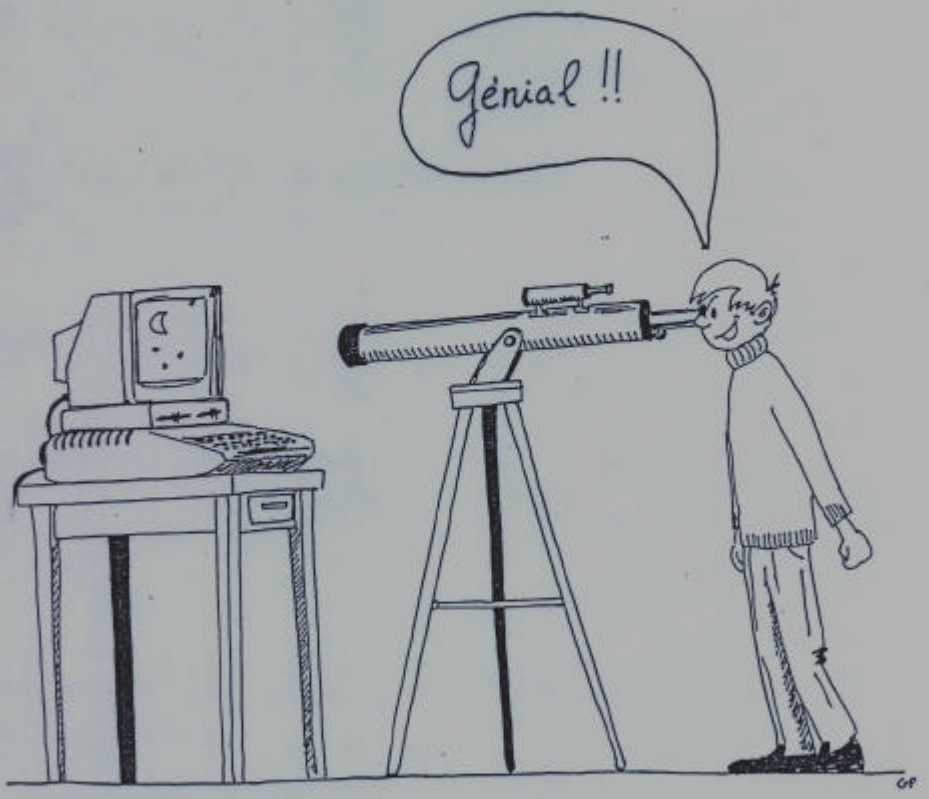
500
1000
1500
2000
σ_V [km/s]

DESPITE ALL PROBLEMS : AN OPTIMISTIC VIEW TO THE VIRTUAL OBSERVATORY



courtesy Georges Paturel, Obs. Lyon