Problems with Nomenclature of Celestial Objects

nomenclature problems : missing digits in the coordinate part of name

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Size estimates for intervening C IV absorbers from high-resolution spectroscopy of APM 0827+5255

object mentioned by N. Brandt (correctly as APM 08279+5255)

Panayiotis Tzanavaris and Robert F. Carswell

ABSTRACT

A new analysis of Keck/HIRES observations of the broad absorption line quasi-stellar object (QSO) APM 0827+5255 indicates that a number of intervening C IV absorbers give rise to absorption lines for which the ...

"Extended" NAME SEARCH

NASA/IPAC EXTRAGALACTIC DATABASE

Messages:

The object name that you submitted is not currently recognized by the NED name interpreter.

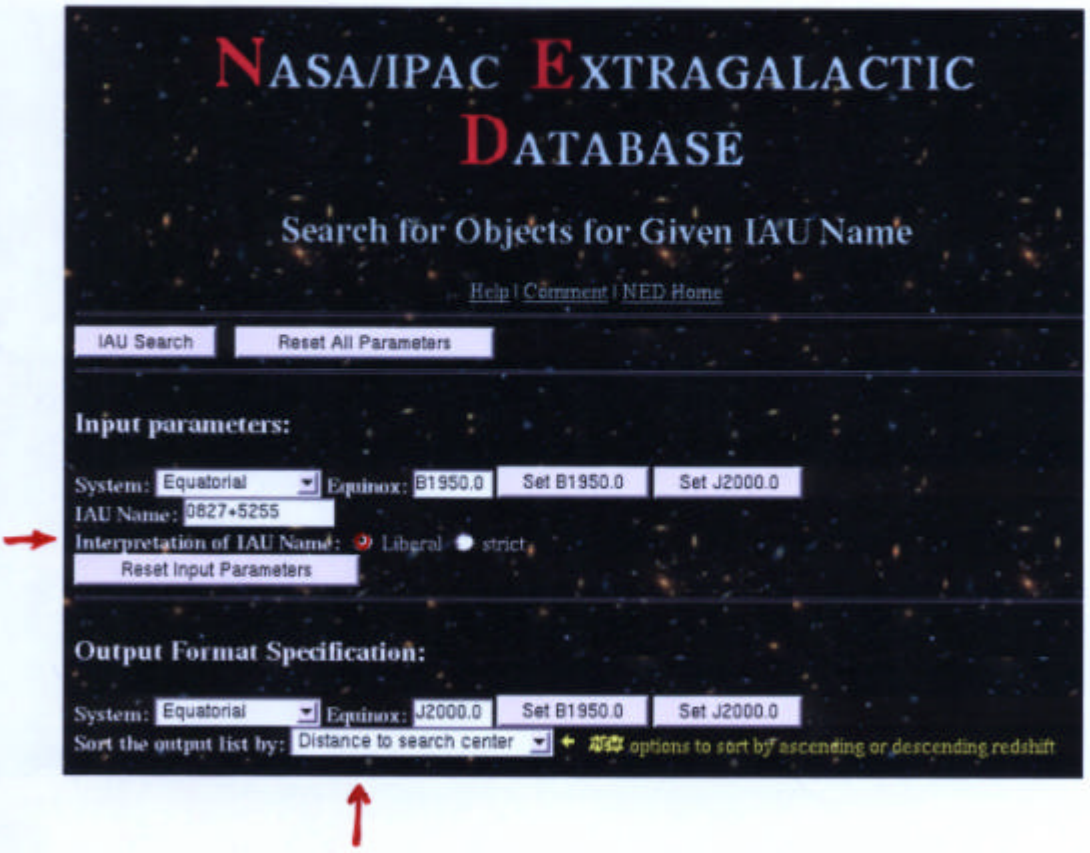
In general, naming conventions employ a prefix (usually an acronym for the first author(s) or the survey name) followed by a numerical string based on a tabular sequence or a position on the sky. For more specifics, see the document at http://vizier.u-strasbg.fr/Dic/iau-spec.htx

Based on your input, we have listed below a number of possibilities that NED does recognize that reasonably may include your object/survey and its standardized naming convention in NED.

Use this format	for this catalogue
ABELL NNNN	Abell Cluster of Galaxies Catalogue
or ABELL SNNNN	
APM HHMMSS.s+DDMMSS	APM galaxy survey
or APM HHMMSS.ss+DDMMSS.s	
ARK NNNa	Arakelian catalogue
ARP NNNa	Arp Atlas of Peculiar Galaxies catalogue
2A HHMM-DDd	ARIEL V Survey
3A HHMM-DDd	ARIEL V Survey

Let's try a

"liberal IAU name search"



The "liberal name search" indeed reveals the object

For IAU name 0827+5255, searching NED within 6.8 arcmin of 8h27m15.00000s, +52d55m15.0000s

34 objects found in NED. Skyplot(first 100)

Object list is sorted on Distance to search center

No.	Object Name (* => Essential Note)	EquJ2000.0 RA	DEC	Type	Velocity/Redshift km/s	z	Qual	Dist. arcmin	Ref
1	2MASX J08305650+5246353	08h30m56.5s	+52d46m35s	G	...	...		1.5	
2	2MASX J08310743+5242515	08h31m07.4s	+52d42m52s	G	...	...		2.6	
3	2MASX J08311447+5242245	08h31m14.5s	+52d42m25s	G	...	...		3.6	
4	NVSS J083123+524613	08h31m23.5s	+52d46m13s	RadioS	...	...		3.9	
5	2MASX J08313043+5245026	08h31m30.4s	+52d45m03s	G	...	...		4.8	
6	2MASX J08310749+5249465	08h31m07.5s	+52d49m47s	G	...	...		4.8	
7	NVSS J083023+524411	08h30m23.1s	+52d44m12s	RadioS	...	...		5.5	
8	IRAS F08279+5255	08h31m41.6s	+52d45m17s	QSO	>30000	3.870000		6.5	4
9	APM 08279+5255 ABS01	08h31m41.6s	+52d45m17s	AbLS	>30000	3.070000		6.5	
10	APM 08279+5255 ABS02	08h31m41.6s	+52d45m17s	AbLS	>30000	1.180000		6.5	
11	APM 08279+5255 ABS03	08h31m41.6s	+52d45m17s	AbLS	>30000	1.810000		6.5	
12	APM 08279+5255 ABS04	08h31m41.6s	+52d45m17s	AbLS	>30000	1.291000		6.5	
13	APM 08279+5255 ABS05	08h31m41.6s	+52d45m17s	AbLS	>30000	1.444000		6.5	
14	APM 08279+5255 ABS06	08h31m41.6s	+52d45m17s	AbLS	>30000	1.550000		6.5	
15	APM 08279+5255 ABS07	08h31m41.6s	+52d45m17s	AbLS	>30000	1.687000		6.5	
16	APM 08279+5255 ABS08	08h31m41.6s	+52d45m17s	AbLS	>30000	2.067000		6.5	
17	APM 08279+5255 ABS09	08h31m41.6s	+52d45m17s	AbLS	>30000	3.379000		6.5	
18	APM 08279+5255 ABS10	08h31m41.6s	+52d45m17s	AbLS	>30000	3.501000		6.5	
19	APM 08279+5255 ABS11	08h31m41.6s	+52d45m17s	AbLS	>30000	3.514000		6.5	
20	APM 08279+5255 ABS12	08h31m41.6s	+52d45m17s	AbLS	>30000	3.558000		6.5	
21	APM 08279+5255 ABS13	08h31m41.6s	+52d45m17s	AbLS	>30000	3.670000		6.5	
22	APM 08279+5255 ABS14	08h31m41.6s	+52d45m17s	AbLS	>30000	3.857600		6.5	
23	APM 08279+5255 ABS15	08h31m41.6s	+52d45m17s	AbLS	>30000	3.893100		6.5	
24	APM 08279+5255 ABS16	08h31m41.6s	+52d45m17s	AbLS	>30000	3.913500		6.5	
25	APM 08279+5255 ABS17	08h31m41.6s	+52d45m17s	AbLS	>30000	3.899700		6.5	
26	APM 08279+5255 ABS18	08h31m41.6s	+52d45m17s	AbLS	>30000	3.917000		6.5	
27	APM 08279+5255 ABS19	08h31m41.6s	+52d45m17s	AbLS	>30000	3.901000		6.5	
28	APM 08279+5255 ABS20	08h31m41.6s	+52d45m17s	AbLS	>30000	2.974000		6.5	
29	APM 08279+5255 ABS21	08h31m41.6s	+52d45m17s	AbLS	>30000	1.062000		6.5	
30	APM 08279+5255 ABS22	08h31m41.6s	+52d45m17s	AbLS	>30000	3.230000		6.5	
31	APM 08279+5255:[ILI99] B	08h31m41.6s	+52d45m17s	Q_Lens	>30000	3.911000		6.5	
32	APM 08279+5255:[ILI99] C	08h31m41.6s	+52d45m17s	Q_Lens	>30000	3.911000		6.5	
33	APM 08279+5255:[ILI99] A	08h31m41.6s	+52d45m17s	Q_Lens	>30000	3.911000		6.5	
34	2MASX J08313901+5242055	08h31m39.0s	+52d42m06s	G	...	...		6.8	

GB = Green Bank (e.g. 87GB hhmmss.s +ddmmss)
but also
= "green-blue band detected object" (NED)

NED search for "GB 1508+5714"

NASA/IPAC EXTRAGALACTIC DATABASE

Comment | NED Home

NED Sample Name Information

Sample	NED Object Types	Sources Available in NED	Reference Codes	Original Tabular Catalo
GB = Green-Blue band detected object.	QSO	Entered as they appear in the literature.	1994ApJ...427L..13S, 1994AJ....107..24S, 1994AJ....108.1147S, 2001MNRAS.322..933S	N/A

Searching NED for object "GB 1508+5714*"

1 objects found in NED. Skyplot(first 100)

No.	Object Name (* -> Essential Note)	EquJ2000.0 RA	DEC	Type	Velocity/Redshift km/s	z	Q
1	87GB 150844.6+571424	15h10m02.9s	+57d02m43s	QSO	>30000	4.301000	

87GB

Detailed information for each object

Object No. 1

Object Names	Type	Object Names	Type
87GB 150844.6+571424	RadioS	[CRF] J151002.9+570243	RadioS
87GB[BWE91] 1508+5714	RadioS	[ERS] B1508+572	RadioS
87GB[BWE91] 1508+5714 ID	QSO	JVAS J1510+5702	RadioS
[WB92] 1508+5714	RadioS	WN B1508+5714	RadioS
TXS 1508+572	RadioS	1AXG J151001+5702	XrayS
GB 1508+5714	RadioS	[MHB96] 1508+5714	QSO
[VCV2001] J151002.8+570247	QSO		

more nomenclature problems : missing J for equinox
prototype: MIT/GB 5-GHz catalogue
original names lack the J!
and names are not unique (too few digits)
⇒ use MGN Jhhmmss+ddmm
N=1,...,4 (installment)

Astron. J. **125** *(2003), 2759-2768.*
astro-ph/0306182 9-June

Spectroscopic Confirmation of A Radio-Selected Galaxy Overdensity at $z = 1.11$[1]

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MG 0442+0202 should read MG1 J044226+0202

ABSTRACT

We report the discovery of a galaxy overdensity at $z = 1.11$ associated with the $z = 1.110$ high-redshift radio galaxy MG 0442+0202. The group, CL 0442+0202, was found in a near-infrared survey of $z > 1$ radio galaxies undertaken to identify spatially-coincident regions with a high density of objects red in $I - K'$ color, typical of $z > 1$ elliptical galaxies. Spectroscopic observations from the Keck I telescope reveal five galaxies within 35″ of MG 0442+0202 at $1.10 < z < 1.11$. These member galaxies have broad-band colors and optical spectra consistent with passively-evolving elliptical galaxies formed at high redshift. Archival *ROSAT* observations reveal a 3σ detection of soft X-ray emission coincident with CL 0442+0202 at a level five times greater than expected for the radio galaxy. These data are suggestive of a rich galaxy cluster and inspired a 45 ks *Chandra X-Ray Observatory* observation. As expected, the radio galaxy is unresolved to *Chandra*, but is responsible for approximately half of the observed X-ray flux. The remaining *ROSAT* flux is resolved into four point sources within 15″ of the radio galaxy, corresponding to a surface density two orders of magnitude higher than average for X-ray sources at these flux levels ($S_{0.5-2\mathrm{keV}} > 5 \times 10^{-16}\,\mathrm{ergs\,cm^{-2}\,s^{-1}}$). One of these point sources is identified with a radio-quiet, type II quasar at $z = 1.863$, akin to sources recently reported in deep *Chandra* surveys. The limit on an extended hot intracluster medium in the *Chandra* data is $S_{1-6\mathrm{keV}} < 1.9 \times 10^{-15}\,\mathrm{ergs\,cm^{-2}\,s^{-1}}$ (3σ, 30″ radius aperture). Though the X-ray observations do not confirm the existence of a massive, bound cluster at $z > 1$, the success of the optical/near-infrared targeting of early-type systems near the radio galaxy validates searches using radio

[1]Some of the data presented herein were obtained at the W.M. Keck Observatory, which is operated as a scientific partnership among the California Institute of Technology, the University of California and the National Aeronautics and Space Administration. The Observatory was made possible by the generous financial support of the W.M. Keck Foundation.

THE ASTRONOMICAL JOURNAL, 125:2759–2768, 2003 June

orig. published as MG 0442+0202
actually: suggested MG1 J044226+0202

MG1 J04426+0202

CONFIRMATION OF A RADIO-SELECTED GALAXY OVERDENSITY AT $z = 1.11$[1]

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ABSTRACT

typo!

We report the discovery of a galaxy overdensity at $z = 1.11$ associated with the $z = 1.110$ high-redshift radio galaxy MG1 J04426+0202 (hereafter MG 0442+0202). The group, Cl 0442+0202, was found in a near-infrared survey of $z > 1$ radio galaxies undertaken to identify spatially coincident regions with a high density of objects red in $I-K'$ color, typical of $z > 1$ elliptical galaxies. Spectroscopic observations from the Keck I telescope reveal five galaxies within 35″ of MG 0442+0202 at $1.10 < z < 1.11$. These member galaxies have broadband colors and optical spectra consistent with passively evolving elliptical galaxies formed at high redshift. Archival *ROSAT* observations reveal a 3 σ detection of soft X-ray emission coincident with Cl 0442+0202 at a level 5 times greater than expected for the radio galaxy. These data suggest a rich galaxy cluster and inspired a 45 ks *Chandra X-Ray Observatory* observation. As expected, the radio galaxy is unresolved by *Chandra* but is responsible for approximately half the observed X-ray flux. The remaining *ROSAT* flux is resolved into four point sources within 15″ of the radio galaxy, corresponding to a surface density 2 orders of magnitude higher than average for X-ray sources at these flux levels [$S(0.5–2\ \mathrm{keV}) > 5 \times 10^{-16}$ ergs cm^{-2} s^{-1}]. One of these point sources is identified with a radio-quiet type II quasar at $z = 1.863$, akin to sources recently reported in deep *Chandra* surveys. The limit on an extended hot intracluster medium in the *Chandra* data is $S(1–6\ \mathrm{keV}) < 1.9 \times 10^{-15}$ ergs cm^{-2} s^{-1} (3 σ, 30″ radius aperture). Though the X-ray observations do not confirm the existence of a massive bound cluster at $z > 1$, the success of the optical/near-infrared targeting of early-type systems near the radio galaxy validates searches using radio galaxies as beacons for high-redshift large-scale structure. We interpret Cl 0442+0202 as a massive cluster in the process of formation.

correct:

Key words: cosmology: observations — galaxies: active — galaxies: evolution — galaxies: individual (MG1 J044226+0202) — X-rays

1. INTRODUCTION

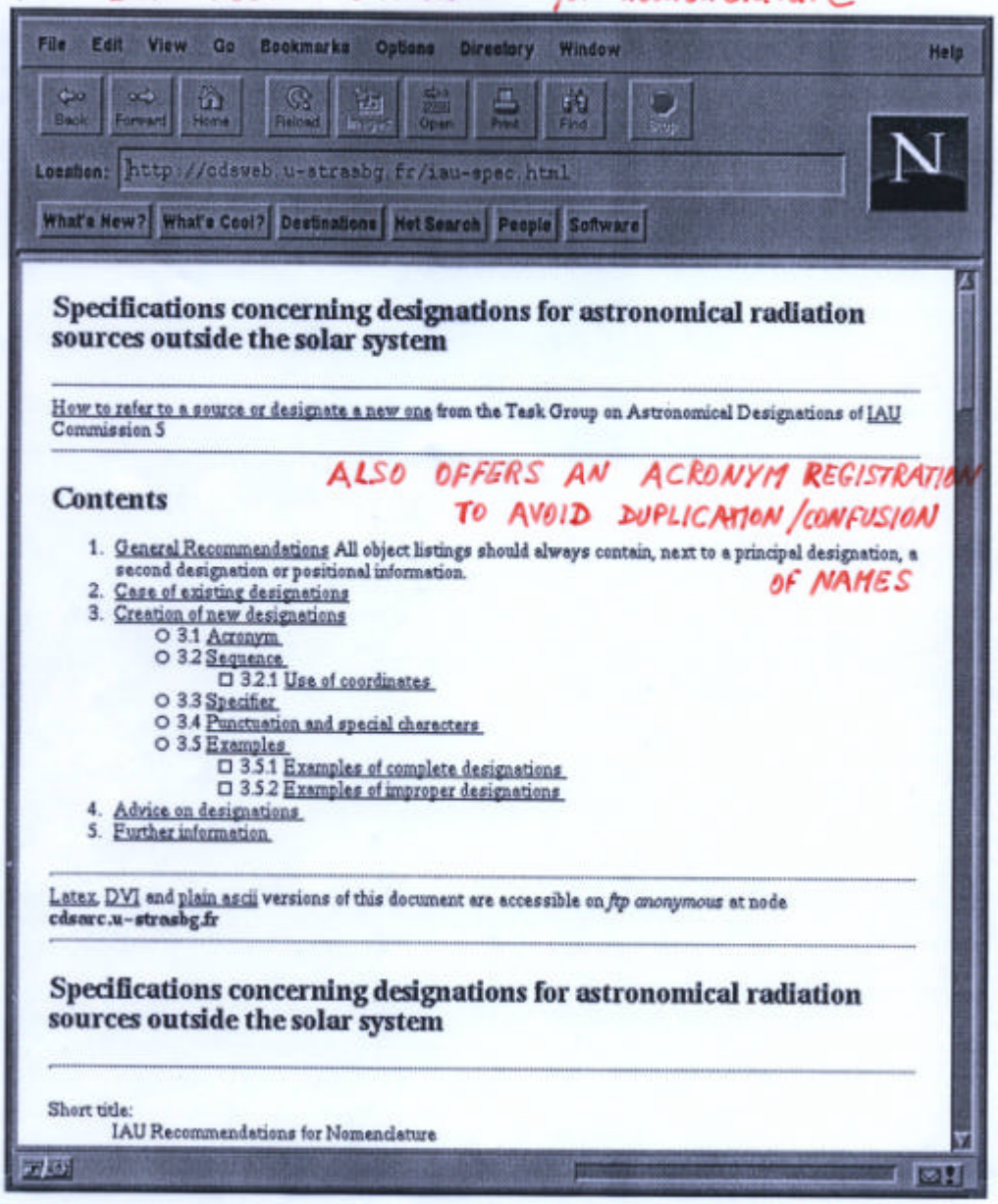
The study of rich galaxy clusters at high redshift has important consequences for our understanding of structure formation in the universe and is a crucial test of cosmological models. Numerical simulations of hierarchical models such as cold dark matter predict that few massive clusters will be found at large redshift (e.g., Cen & Ostriker 1994) and that the evolution of cluster number density as a function of X-ray luminosity and temperature depends sensitively upon Ω_0, but only weakly upon Λ and the initial power spectrum (e.g., Peebles, Daly, & Juszkiewicz 1989; Evrard 1989; Eke et al. 1998). Moderate-redshift clusters from well-defined samples such as the *ROSAT* Deep Cluster Survey (RDCS; Rosati et al. 1998) have been used to constrain Ω_M and σ_8 (Borgani 2001). Distant X-ray luminous clusters provide the best lever arm for these studies. However, to date few ($\approx$7) $z > 1$ clusters have been spectroscopically confirmed (cf. Dickinson 1995; Stanford et al. 1997; Rosati et al. 1999; Liu 2000; Rosati 2003; Thompson et al. 2001; Stanford et al. 2002).

Clusters and groups of galaxies also provide a crucial tool in the study of galaxy formation and evolution. Out to at least $z \sim 1$, clusters tend to be dominated by a population of massive elliptical galaxies that is largely homogenous and has been quiescent since at least $z \sim 1$ (e.g., Stanford, Eisenhardt, & Dickinson 1998). Finding high-redshift massive elliptical systems is difficult, but the implications for the epoch of early-type galaxy formation can be provocative, as evidenced by LBDS 53W091, a galaxy at $z = 1.55$ whose 3.5 Gyr age is comparable to the Hubble time for its redshift (Dunlop et al. 1996; Spinrad et al. 1997). An expanded census of dense environments in the early universe will provide a powerful means to test models of large-scale structure formation, characterize the galaxy populations in these environments, and study the formation epoch of early-type galaxies.

Most bound clusters beyond redshift unity have been identified from deep serendipitous X-ray surveys, from deep near-IR imaging surveys, and/or around powerful 3C radio sources. Radio galaxies are robust signposts of early collapse. In the local universe, bright radio sources are often hosted by giant elliptical and cD galaxies residing within

[1] Some of the data presented herein were obtained at the W. M. Keck Observatory, which is operated as a scientific partnership among the California Institute of Technology, the University of California, and the National Aeronautics and Space Administration. The observatory was made possible by the generous financial support of the W. M. Keck Foundation.

IAU Recommendations for nomenclature



THE ASTRONOMICAL JOURNAL, 126:535, 2003 July

"DELICACY" OF NOMENCLATURE "CORRECTIONS" A POSTERIORI

ADDENDUM: HOST GALAXIES OF $z \sim 4.7$ QUASARS [ASTRON. J. 125, 1053 (2003)]

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Received 2002 November 8; accepted 2002 December 5

The following table provides the full designations, following IAU precepts, for the quasars discussed in the paper. The Editor thanks Hélène Dickel, Marion Schmitz, and the members of the IAU Commission 5 Clearing House for providing these data.

TABLE 1 CITED IN TEXT | ASCII | TYPESET IMAGE

CORRESPONDENCE BETWEEN SHORT NAMES AND FULL DESIGNATIONS

previously published ⊢ "new" info added here →

Short Name as in Paper	Full Designation	R.A. (J2000)	Decl. (J2000)	Reference
SDSS 1321+0038...	SDSSp J132110.82+003821.7	13 21 10.82	+00 38 21.7	Anderson et al. 2001
PC 1415+3408[a]...	PC 1415+3408	14 17 55.01	+33 54 41.5	Schneider, Schmidt, & Gunn 1997
GB 1428+4217[b]...	87GB 142825.9+421804	14 30 23.74	+42 04 36.5	Gregory & Condon 1991
SDSS 1451-0104...	SDSSp J145118.77-010446.2	14 51 18.77	-01 04 46.2	Zheng et al. 2000
SDSS 1532-0039...	SDSSp J153259.96-003944.1	15 32 59.96	-00 39 44.1	Fan et al. 1999

SDSS Data Release 1

Sloan Digital Sky Survey

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Data Flow
Algorithms
Glossary
Help and Feedback
Search

IAU designations

The official SDSS designation for an object is

```
SDSS JHHMMSS.ss+DDMMSS.s
```

SDSS JHHMMSS.SS±DDMMSS.S

where the coordinates are truncated, not rounded. This format must be used at least once for every object listed in a paper using SDSS data.

When abbreviating the object name in the text please use the "J" to indicate the equinox of the coordinates. For example

```
SDSS J123456.89-012345.6
```

could be abbreviated as

```
SDSSJ1234
SDSSJ1234-0123
```

may later in text of paper be abbreviated

SDSS JHHMM ±DD

Please refer to the CDS dictionary on SDSS for further information.

Why bother?

The following is an excerpt from a message by Helene Dickel, the Chair of the IAU Working Group Designations.

> To illustrate the kind of confusion that shortened names can lead to, consider the source in the Fan et al. paper in ApJ 526, L57, 1999 properly designated SDSSp J153259.96-003944.1 which is then referred to as SDSS 1533-00 for brevity. Not only is there no J but the RA has been rounded instead of truncated. Without the explicit J, one may assume these are B1950 coordinates. If a subsequent author only gives the shortened name, then a reader searching in NED with IAU format on 1533-00, assuming B1950 coordinates, specifying acronym SDSS but nothing for the object type, would be given 243 objects that might be the one in question. Most begin with J2000 RA of 1533, 1534, or 1535. You can narrow the choices if you realize that SDSS source names are based on J2000 coordinates and that this source is a QSO. Then there are 9 choices which include SDSS J153306.42+000635.1 and SDSSp J153259.96-003944.1 Searching for SDSS 1532-0039 assuming J2000 coordinates and QSO yields two choices SDSS J153243.67-004342.5 and SDSSp J153259.96-003944.1 However, if you think SDSS 1532-0039 uses B1950 coordinates and don't specify a QSO, you are given 11 possibilities which start with RA 1534 or 1535 and Dec mostly start with 004, NONE of which include the relevant source SDSSp J153259.96-003944.1!
>
> It is not just the earlier papers that give shortened names without the J. A recent paper in AJ gives SDSSHHMM+DDMM with no full coordinates and a website as the reference. It took over 2 hours with the help of NED to track down the original SDSSp designations and references for those three SDSS sources plus several other sources whose designations were equally corrupted. Following discussions with the Editor and Author, an Addendum is being published which includes a table giving the short name, the official SDSS or SDSSp full designation (and the full designation of the other sources), precise J2000 coordinates, and the published reference for each source. Editors and journal readers would appreciate having this information already available when you publish your papers.

Last modified: Mon Apr 21 13:39:08 CDT 2003

Another recent example of a too short SDSS name ... despite the "official" SDSS nomenclature page

DRAFT VERSION JUNE 20, 2003
Preprint typeset using LaTeX style emulateapj

DISCOVERY OF A CLUSTERED QUASAR PAIR AT Z ≈ 5: BIASED PEAKS IN EARLY STRUCTURE FORMATION

1

Palomar Obs 125, USA;

Authors are kept "anonymous" here ...

Jet Propulsi nasa.gov

Palomar Obs 125, USA;

Draft version June 20, 2003

ABSTRACT

We report a discovery of a quasar at $z = 4.96 \pm 0.03$ within a few Mpc of the quasar SDSS 0338+0021 at $z = 5.02 \pm 0.02$. The newly found quasar has the SDSS i and z magnitudes of ≈ 21.2, and an estimated absolute magnitude $M_B \approx -25.2$. The projected separation on the sky is 196 arcsec, and the redshift difference $\Delta z = 0.063 \pm 0.008$. The probability of finding this quasar pair by chance in the absence of clustering in this particular volume is $\sim 10^{-4} - 10^{-3}$. We conclude that the two objects probably mark a large-scale structure, possibly a protocluster, at $z \approx 5$. This is the most distant such structure currently known. Our search in the field of 13 other QSOs at $z \gtrsim 4.8$ so far has not resulted in any detections of comparable luminous QSO pairs, and it is thus not yet clear how representative is this structure at $z \approx 5$. However, along with the other evidence for clustering of quasars and young galaxies at somewhat lower redshifts, the observations are at least qualitatively consistent with a strong biasing of the first luminous and massive objects, in agreement with general predictions of theoretical models. More extensive searches for clustered quasars and luminous galaxies at these redshifts will provide valuable empirical constraints for our understanding of early galaxy and structure formation.

Subject headings: cosmology: observations – galaxies: formation – quasars: general – quasars: individual (SDSS 0338+0021, RD 657)

too short to identify the object

BUT: exact position is mentioned in the paper