

A major release of votable.js, the VOTable Javascript parser

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□ Outline

Context and what it can do (and not yet)

API / On Gitlab

Implementation references

Perspectives

□ Context

- A work started in September 2014 and used in the new VizieR main Web interface which was under development.
- The aim was to do the parsing on the frontend (the backend providing only the VOTable files).
- The Binary format parsing was taken into account as a main feature of the parser.

□ What it can do..

- Handling of VOTable format (with prefix or not) and designed to parse TABLEDATA and BINARY.
- Parsing of the whole field of values given by the VOTable documentation (boolean, bit, unsignedByte, short, int, long, char, unicodeChar, float, double, floatComplex, doubleComplex).
- Taking into account of the null value (represented by a magical number) and the precision for the float, double, floatComplex and doubleComplex types.
- Parsing of arrays (with one or more dimensions, with fixed length or not).

□ What it can do.. (2)

- GROUPs parsing.
- Taking in account of the PARAMrefs and FIELDrefs fields, and replaces them by their real equivalent when parsing the metadata.
- No specific internal model, use of JSON for the standard encoding.
- For binary encoding, loading of the binary part in a object and decoding on demand, flexible to let people adapt it to their needs.
- Set of Getter
- Small: 57 KB

□ What it cannot (yet) do..

- Parsing of multidimensional arrays of chars or unicode Chars.
- Link PARAMrefs located in a sub-group that references a PARAM not located in the VOTable / resource / table parent but in a parent GROUP
 - The ref attribute of the PARAMref element can only be a reference to a param defined as a direct child of the VOTable / resource / table parents elements.
- Association of a null value to a specific element of an array (i.e. for an array, either the whole array is null and is equal to the null value, or none of its values is null). Concerning the specific cases, have a look at the code for further explanation.

□ API / On Gitlab

- <https://gitlab.com/cdsdevcorner/votable.js>
- Resources to test it available on the gitlab repository (with also a comparison with the previous release)
- Important remark: the previous version available on GitHub will be removed and is now obsolete.

References

New CDS (not yet published) Portal

Tabular data

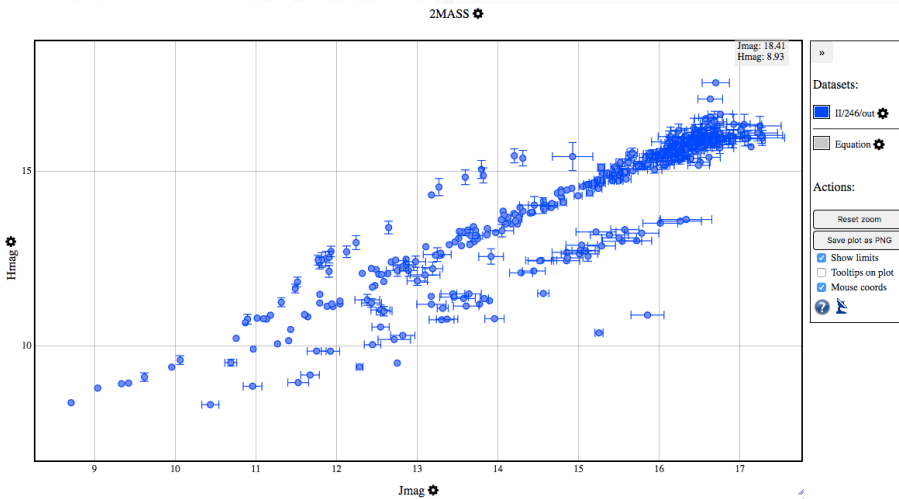
SIMBAD 2MASS Tycho2 SDSS DR9 SIA Vizier

Filter: 339 entries within radius 0.20°

_r (arcsec)	_RAJ2000 ("h:m:s")	_DEJ2000 ("d:m:s")	RAJ2000 (deg)	DEJ2000 (deg)	2MASS	Jmag (mag)	e_Jmag (mag)	Hmag (mag)	e_Hmag (mag)	Kmag (mag)	e_Kmag (mag)	Qflg	Rflg	Bflg	Cflg	Xflg	Aflg	
0.6	09 55 52.529	+69 40 47.12	148.968872	69.679756	09555252+6940471	10.437	0.106	8.325		7.56		EUU	200	100	000	2	0	
1.5	09 55 52.172	+69 40 47.61	148.967385	69.679893	09555217+6940476	9.621		9.114	0.121	8.17	0.089	UEE	022	011	000	2	0	
4.9	09 55 53.259	+69 40 49.16	148.971913	69.680321	09555325+6940491	10.691	0.074	9.527	0.096	8.7	0.084	EEE	222	111	c00	2	0	
6.6	09 55 52.976	+69 40 52.86	148.970732	69.681351	09555297+6940528	11.673	0.115	9.173		8.535		EUU	200	100	c00	2	0	
7.8	09 55 51.087	+69 40 43.44	148.962862	69.678734	09555108+6940434	11.526	0.129	8.956		8.157		EUU	200	100	c00	2	0	
8.8	09 55 53.600	+69 40 53.33	148.973333	69.68148	09555359+6940533	12.754	0.03	9.516										
9.6	09 55 50.586	+69 40 47.18	148.960777	69.679771	09555058+6940471	10.96	0.116	8.853										
9.9	09 55 50.537	+69 40 46.16	148.960569	69.679489	09555053+6940461	10.064		9.599	0.1									
10.9	09 55 50.647	+69 40 41.30	148.961029	69.678139	09555064+6940413	12.287	0.042	9.405										
14.3	09 55 50.267	+69 40 38.09	148.959444	69.677246	09555026+6940380	12.447	0.102	10.042										
14.5	09 55 54.764	+69 40 54.79	148.978182	69.681885	09555476+6940547	12.546	0.118	11.036	0.1									
14.9	09 55 55.256	+69 40 49.54	148.980233	69.680428	09555525+6940495	11.908		12.143	0.1									
17.2	09 55 54.996	+69 40 57.78	148.979152	69.682716	09555499+6940577	11.517		11.835	0.1									
17.7	09 55 55.252	+69 40 56.85	148.980215	69.682457	09555525+6940568	11.408		10.157										
18.0	09 55 55.643	+69 40 53.61	148.981844	69.681557	09555564+6940536	11.489		11.651	0.1									
18.4	09 55 50.956	+69 40 30.20	148.962318	69.675056	09555095+6940302	12.244		12.962	0.1									

339 entries within radius 0.20°

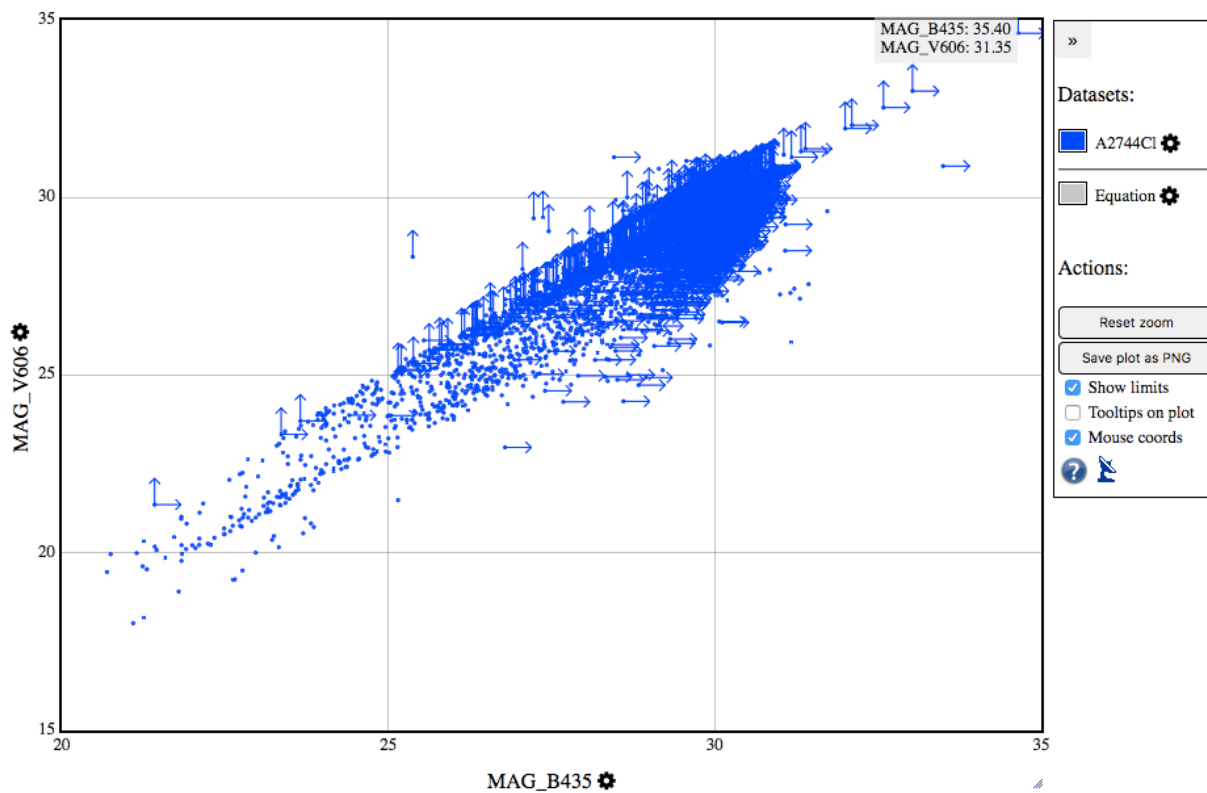
Parsing of the Cone Search, SIA and SSA query results
(example: all Hipparcos (118,000) sources parsed)



References (2)

↓ Dataplot

Abell 2744 Cluster ⚙



<http://astrodeep.u-strasbg.fr/ff/>

□ References (3)

- Will be used in Aladin Lite.
- ... we can provide help if you want to test it.
- Following the importance of the parser in these references, it will be well maintained and follow the VOTable evolution. Not dependant from one developer.

□ Perspectives

- Mainly maintenance
- Best effort => integrate what it can not do if really needed

- Remark: most of the source codes (available for example on the CDS devcorner) will be moved the gitlab repository