

# Un *web-service* de collecte de données ?

Frédéric Paletou  
UPS-OMP-IRAP

- Python + `astroquery`
- Utilisation avec `Vizier@CDS`
- Exemples d'utilisation
- Autres besoins ?

# Base technique

- **Python**
- **astroquery**
  - séminaire OVGSO de mai 2014
  - tuto de *Paletou & Zolotukhin*  
(`arXiv:1408.7026`)
- **Vizier@CDS**
  - **autres ?**
  - cf. astroquery : SDSS, Spitzer...

# Quel type de données ?

- Motivation initiale : les paramètres **stellaires** fondamentaux
  - $T_{\text{eff.}}$ ,  $\log g$ ,  $[\text{Fe}/\text{H}]$
  - ainsi que :  $v \sin i$
- Catalogues **Vizier** (éventuellement Simbad)
- Utilisation **intensive** depuis 2014 !

# input : nom d'objets normalisés !

Portal Simbad VizieR Aladin X-Match Other Help

### VizieR Result Page

[Show the target form](#)  
[Show constraint information](#)

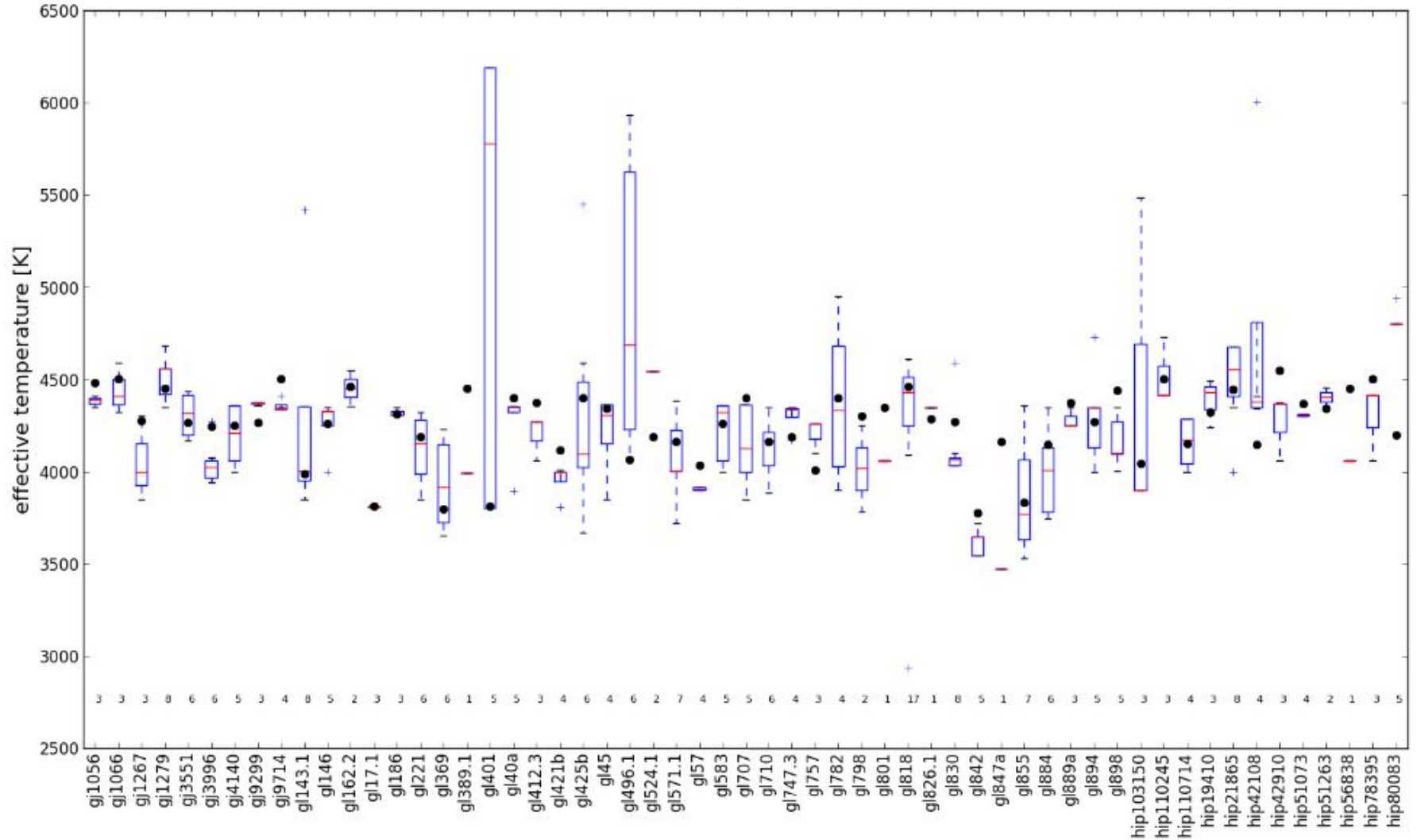
The 2 columns in **color** are computed by VizieR, and are **not part of the original data**.

[J/ApJS/159/141/stars](#) [Spectroscopic properties of cool stars. I. \(Valenti+, 2005\)](#)  
[Post annotation](#) Stellar properties and parameters (tables 8 and 9 of the paper) (1040 rows)

[start AladinLite](#) [plot the output](#) [query using TAP/SOL](#)

Full	RAJ2000	DEJ2000	SPOCS	Name	RAJ2000	DEJ2000	Vmag	Dist	Mass	e_	Age	e_	E_	Teff	log(g)	[M/H]	vsini
	"h:m:s"	"d:m:s"			"h:m:s"	"d:m:s"	mag	pc	solMass	(...)	Gyr	Gyr	Gyr	K	[cm/s]	[Sun]	km/s
1			0	Sun					1.000		4.3	2.6	6.0	5770	4.44	0.00	1.7
2	00 04 56.3	+23 16 10	1	HD 225261	00 04 56.3	+23 16 10	7.82	25.6	0.930	0.130	8.2	0.4	14.1	5265	4.59	-0.31	0.0
3	00 05 52.5	-41 45 11	2	HD 105	00 05 52.5	-41 45 11	7.51	40.2	1.660	0.250	2.8	1.0	3.5	6126	4.65	-0.02	14.5
4	00 06 19.1	-49 04 30	3	HD 142	00 06 19.1	-49 04 30	5.80	25.6	1.024	0.066	1.9	1.0	2.6	6249	4.19	0.08	10.4
5	00 06 36.7	+29 01 17	4	HD 166	00 06 36.7	+29 01 17	6.07	13.7	0.964	0.093	1.9	0.4	4.1	5577	4.58	0.12	4.1
6	00 07 32.5	-23 49 07	5	HD 283	00 07 32.5	-23 49 07	8.70	32.5	0.770	0.120	5.5	0.1	15.0	5094	4.57	-0.47	0.9
7	00 08 25.7	+06 37 00	6	HD 377	00 08 25.7	+06 37 00	7.59	39.8	0.790	0.120	4.1	1.9	5.7	5873	4.28	0.11	14.6
8	00 08 40.9	+36 37 37	7	HD 400	00 08 40.9	+36 37 37	6.21	33.0	1.300	0.180	4.4	3.4	5.5	6152	4.19	-0.24	5.7
9	00 09 51.2	+08 27 11	8	HD 531	00 09 51.2	+08 27 11	9.30	70.0	1.490	0.910	2.1	0.3	5.6	5778	4.71	0.09	7.5
10	00 09 51.6	+08 27 11	9	BD+07 9s	00 09 51.6	+08 27 11	9.30	70.0	1.270	0.780	2.0	0.3	6.3	5707	4.62	0.03	7.6
11	00 11 22.4	+30 26 58	10	HD 691	00 11 22.4	+30 26 58	7.95	34.1	1.220	0.180	4.1	1.1	6.8	5633	4.66	0.20	5.4
12	00 14 10.2	-07 11 56	11	HD 984	00 14 10.2	-07 11 56	7.32	46.2	3.090	0.530	1.2	0.3	1.9	6490	4.83	-0.05	37.6
13	00 17 58.8	-13 27 20	12	HD 1388	00 17 58.8	-13 27 20	6.51	26.1	1.180	0.170	3.7	1.8	5.6	5952	4.42	-0.04	3.0
14	00 18 41.8	-08 03 10	13	HD 1461	00 18 41.8	-08 03 10	6.47	23.4	1.140	0.160	4.2	2.1	5.9	5765	4.41	0.16	1.6
15	00 20 04.2	-64 52 29	14	HD 1581	00 20 04.2	-64 52 29	4.23	8.6	1.176	0.092	5.3	3.4	6.8	5948	4.46	-0.18	3.0

+ nomenclature CDS pour les paramètres physiques (e.g., [M/H] == ‘\_\_Fe\_H\_\_’)



**Fig. 1.** Comparison between our estimate of effective temperatures ( $\bullet$ ), and the values we got from available VizieR catalogues. The latter collections are represented as classical boxplots. (The horizontal bar inside each box indicates the median, or  $Q_2$  value, while each box extends from first quartile,  $Q_1$ , to third quartile  $Q_3$ . Extreme values, still within a 1.5 times the interquartile range away from either  $Q_1$  or  $Q_3$ , are connected to the box with dashed lines. Outliers are denoted by a “+” symbol.) Objects we studied are listed along the horizontal axis. In addition, for each object at level  $T_{\text{eff}} \sim 2800$  K, we explicated the number of values found among all VizieR catalogues.



## SIMBAD query result

other query modes :

Identifier query

Coordinate query

Criteria query

Reference query

Basic query

Script submission

TAP

Output options

Help

Query : IdentList

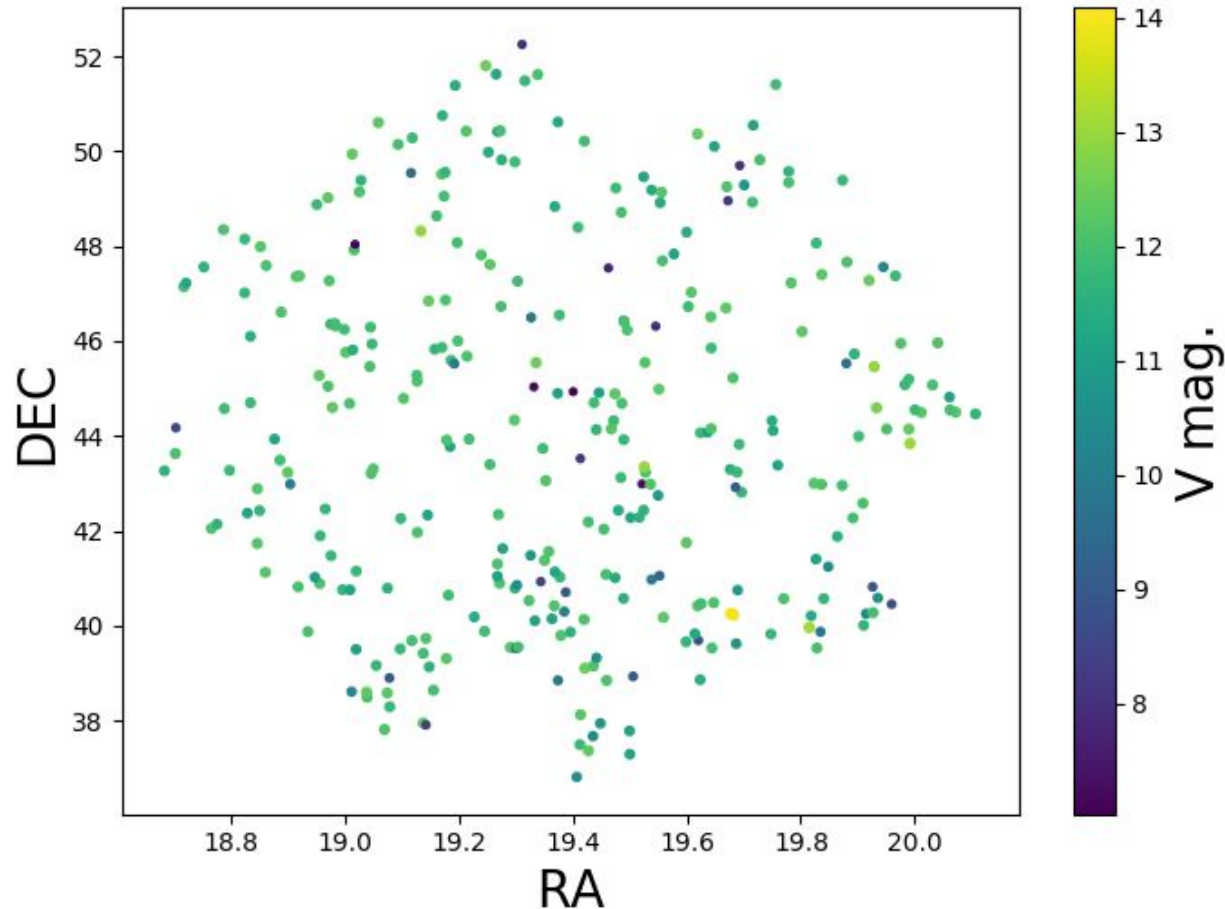
 submit id

Show 500 entries

N <sup>o</sup>	Identifier	typed ident	Otype	ICRS (J2000) RA	ICRS (J2000) DEC	Mag U	Mag B	Mag V		
1	TYC 2666-1391-1	KIC1161618	*	19 24 26.1473	+36 48 47.866		11.61	10.54		
2	KIC 1726211	KIC1726211	RG*	19 30 01.0673	+37 17 33.920		12.14	11.16		
3	KIC 1868101	KIC1868101	*	19 25 39.875	+37 22 02.22					
4	KIC 2013502	KIC2013502	*	19 24 45.8448	+37 29 38.559		12.36	11.52		
5	KIC 2303367	KIC2303367	*	300 2MASS J19185863+5128563	KIC12507577	RG*	19 18 58.6378	11.55	10.41	
6	KIC 2448225	KIC2448225	*	301 2MASS J19201990+5136413	KIC12601771	RG*	19 20 19.906			
7	KIC 2554924	KIC2554924	*	302 HD 181677	KIC12884274	RG*	19 18 40.8909	12.68	11.07	
8	KIC 2696732	KIC2696732	RG*	Showing 1 to 302 of 302 entries					13.32	12.12
9	HD 178848	KIC2696955	*	plot this list of objects <input checked="" type="radio"/> Equat. <input type="radio"/> Gal <input type="radio"/> SGal <input type="radio"/> Ecl					13.70	12.64
10	KIC 2714397	KIC2714397	RB?	Identifier not found in the database : KIC 4571402					9.36	8.26
				Identifier not found in the database : KIC 4651366					11.79	10.75
				Identifier not found in the database : KIC 7955392						
				Identifier not found in the database : KIC 8461449						
				Identifier not found in the database : KIC 9814943						
				Identifier not found in the database : KIC 10192458						
				Identifier not found in the database : KIC 10903291						
				Identifier not found in the database : KIC 12008797						
				Identifier not found in the database : KIC 12109388						
				Identifier not found in the database : KIC 12454201						
				Identifier not found in the database : KIC 12520106						
				Identifier not found in the database : KIC 12599878						
				Identifier not found in the database : KIC 12688781						

- 300+ objets **Kepler**
- (RA, DEC) ?
- mag. V (**Simbad**) ?

# Données *Vizier*



- *Query complet* (315 entrées)
- $(RA, DEC)$  du Gaia/DR1 (`I/337/gaia`)
- *V mag. médiane sur ~ tout Vizier*

# Généralisation ?

- À d'autres types de **cibles** ?
- À d'autres **paramètres** ?
- Une tentative inspirée de **BAX**
  - *A database for X-ray clusters and group of galaxies (Sadat et al. 2004)*
- Récupération de tous les *redshift* (**z**) et des "flux X" (**FX**) dispos dans *Vizier*, à partir des noms de cibles contenus dans **B/bax**



## *Usual... troubles*

FX <--- J/ApJS/224/40/counts

VALs : ['1.22e-14']

FX <--- J/MNRAS/392/1509/table2

VALs : ['1.22e-14', 2.21]

FX <--- J/MNRAS/392/1509/table4

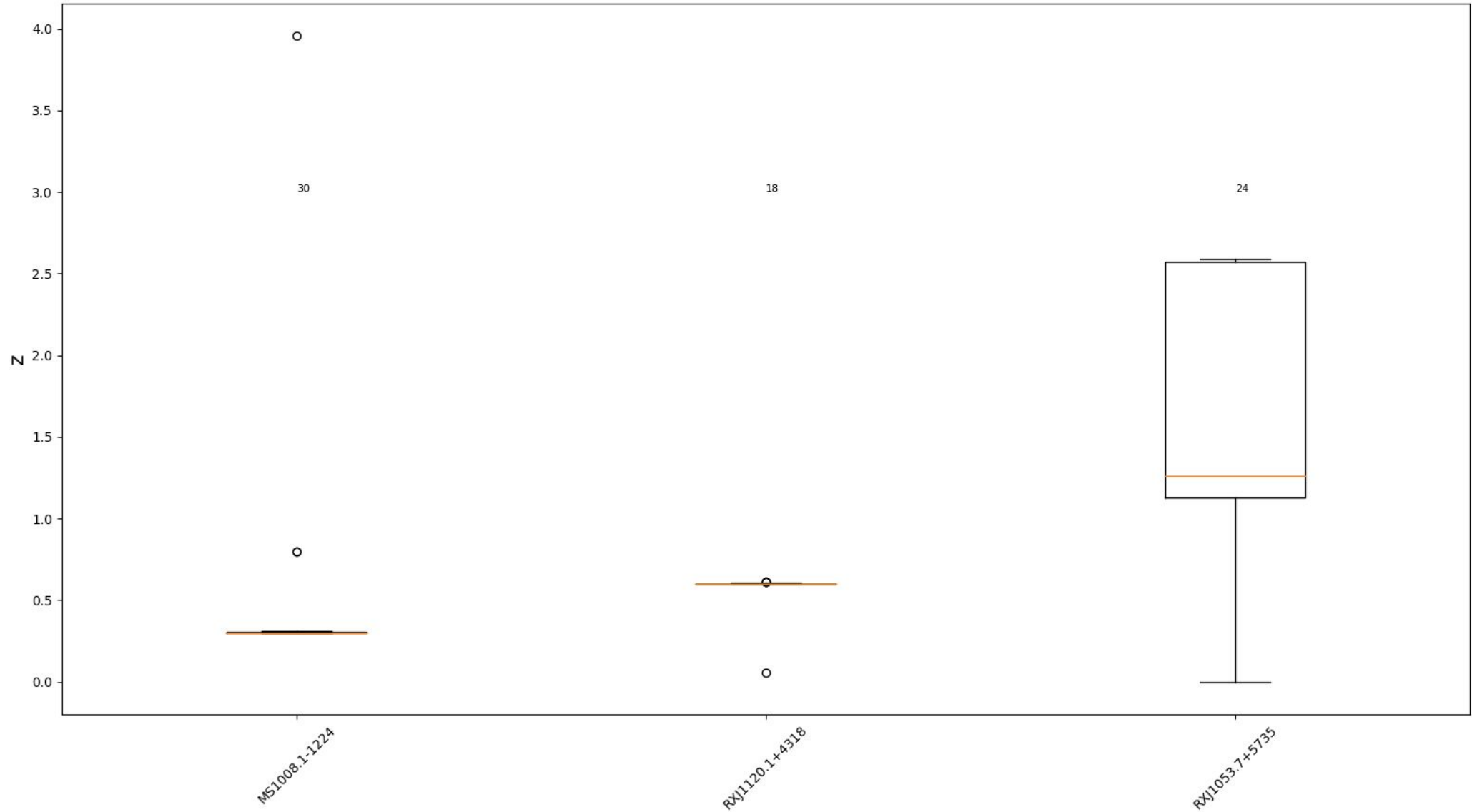
VALs : ['1.22e-14', 2.21, 16.99]

FX <--- J/AZh/87/760/clusters

VALs : ['1.22e-14', 2.21, 16.99, 2.5]

- Vérifier les **contenus** (existence/type...) avant de tenter moyenne, médiane, écart-type etc...
- Valeurs de flux (FX) **pas homogènes** !

# Output : format.s ?



# Généralisation ?

- Intérêt.s pour **vous** ?
- Cas d'utilisation **récurrente/massive** ??
- Scripts (relativement) faciles à modifier et **dispos** pour d'autres tests...
- Actions à mener **si** un intérêt suffisamment large et pertinent était montré ???