

alm tutorial

What are article level metrics?

Glad you asked. The canonical URL for this is perhaps altmetrics.org. Basically it is a metric that measures something about an article. This is in stark contrast to journal level metrics, like the Journal Impact Factor.

Are there other altmetrics data providers?

Yes indeedy.

- [ImpactStory](#)
- [Altmetric.com](#)
- [PlumAnalytics](#)

Authentication

You aren't currently not required to use an API key to access the PLoS ALM API, but soon will need to.

Get your PLoS API key [here](#)

Put your API key in your .Rprofile file using exactly this: `options(PlosApiKey = "YOUalmAPIKEY")`, and the functions within this package will be able to use your API key without you having to enter it every time you run a search.

Install and load

You can get this package by installing via `install_github()` within Hadley Wickham's devtools package.

```
install.packages("devtools")
require(devtools)
install_github("alm", "rOpenSci")
```

```
library(alm)
```

The default call with either doi, pmid, pmcid, or mdid without specifying an argument for info

(We'll not print a few columns so the table prints nicely)

```
alm(doi = "10.1371/journal.pone.0029797")[, -c(6:8)]
```

	.id	pdf	html	shares	groups	total
1	citeulike	NA	NA	1	NA	1
2	crossref	NA	NA	NA	NA	7
3	nature	NA	NA	NA	NA	4
4	pubmed	NA	NA	NA	NA	2
5	scopus	NA	NA	NA	NA	0
6	counter	2371	27772	NA	NA	30251

7	researchblogging	NA	NA	NA	NA	1
8	wos	NA	NA	NA	NA	6
9	pmc	64	416	NA	NA	480
10	facebook	NA	NA	0	NA	0
11	mendeley	NA	NA	69	0	69
12	twitter	NA	NA	NA	NA	11
13	wikipedia	NA	NA	NA	NA	49
14	scienceseeker	NA	NA	NA	NA	0
15	relativemetric	NA	NA	NA	NA	150729
16	f1000	NA	NA	NA	NA	0
17	figshare	0	8	NA	NA	8
18	pmceurope	NA	NA	NA	NA	4
19	pmceuropedata	NA	NA	NA	NA	10
20	openedition	NA	NA	NA	NA	0
21	wordpress	NA	NA	NA	NA	0
22	reddit	NA	NA	NA	NA	0
23	datacite	NA	NA	NA	NA	0
24	copernicus	NA	NA	NA	NA	0
25	articlecoverage	NA	NA	NA	NA	0
26	articlecoveragecurated	NA	NA	NA	NA	0
27	plos_comments	NA	NA	NA	NA	16

Details for a single DOI

```
out <- alm(doi = "10.1371/journal.pone.0029797", info = "detail")
## totals
out[["totals"]][, -c(6:8)]
```

	.id	pdf	html	shares	groups	total
1	citeulike	NA	NA	1	NA	1
2	crossref	NA	NA	NA	NA	7
3	nature	NA	NA	NA	NA	4
4	pubmed	NA	NA	NA	NA	2
5	scopus	NA	NA	NA	NA	0
6	counter	2371	27772	NA	NA	30251
7	researchblogging	NA	NA	NA	NA	1
8	pmc	64	416	NA	NA	480
9	facebook	NA	NA	0	NA	0
10	mendeley	NA	NA	69	0	69
11	twitter	NA	NA	NA	NA	11
12	wikipedia	NA	NA	NA	NA	49
13	scienceseeker	NA	NA	NA	NA	0
14	relativemetric	NA	NA	NA	NA	150729
15	f1000	NA	NA	NA	NA	0
16	figshare	0	8	NA	NA	8
17	pmceurope	NA	NA	NA	NA	4
18	pmceuropedata	NA	NA	NA	NA	10
19	openedition	NA	NA	NA	NA	0
20	wordpress	NA	NA	NA	NA	0
21	reddit	NA	NA	NA	NA	0
22	datacite	NA	NA	NA	NA	0
23	copernicus	NA	NA	NA	NA	0

24	articlecoverage	NA	NA	NA	NA	0
25	articlecoveragecurated	NA	NA	NA	NA	0
26	plos_comments	NA	NA	NA	NA	16

```
## history
head(out[["history"]])
```

	.id	dates	totals
1	citeulike	2014-01-27	1
2	crossref	2014-01-26	7
3	nature	2014-01-30	4
4	pubmed	2014-01-25	2
5	counter	2014-02-25	30251
6	counter	2014-02-24	30238

Search using various identifiers, including pubmed id, pmc id, and mendeley id

```
# A single PubMed ID (pmid)
alm(pmid = 22590526)[, -c(6:8)]
```

	.id	pdf	html	shares	groups	total
1	citeulike	NA	NA	5	NA	5
2	crossref	NA	NA	NA	NA	3
3	nature	NA	NA	NA	NA	1
4	pubmed	NA	NA	NA	NA	5
5	scopus	NA	NA	NA	NA	0
6	counter	1032	14687	NA	NA	15760
7	researchblogging	NA	NA	NA	NA	1
8	pmc	31	119	NA	NA	150
9	facebook	NA	NA	0	NA	0
10	mendeley	NA	NA	59	0	59
11	twitter	NA	NA	NA	NA	143
12	wikipedia	NA	NA	NA	NA	0
13	scienceseeker	NA	NA	NA	NA	0
14	relativemetric	NA	NA	NA	NA	33527
15	f1000	NA	NA	NA	NA	0
16	figshare	NA	NA	NA	NA	0
17	pmceuropedata	NA	NA	NA	NA	4
18	pmceuropedata	NA	NA	NA	NA	0
19	openedition	NA	NA	NA	NA	0
20	wordpress	NA	NA	NA	NA	1
21	reddit	NA	NA	NA	NA	0
22	datacite	NA	NA	NA	NA	0
23	copernicus	NA	NA	NA	NA	0
24	articlecoverage	NA	NA	NA	NA	0
25	articlecoveragecurated	NA	NA	NA	NA	0
26	plos_comments	NA	NA	NA	NA	3

```
# A single PubMed Central ID (pmcid)
alm(pmcid = 212692)[, -c(6:8)]
```

	.id	pdf	html	shares	groups	total
1	citeulike	NA	NA	8	NA	8
2	crossref	NA	NA	NA	NA	150
3	nature	NA	NA	NA	NA	0
4	pubmed	NA	NA	NA	NA	149
5	scopus	NA	NA	NA	NA	324
6	counter	2533	20295	NA	NA	22979
7	researchblogging	NA	NA	NA	NA	0
8	pmc	2331	4898	NA	NA	7229
9	facebook	NA	NA	0	NA	0
10	mendeley	NA	NA	104	0	104
11	twitter	NA	NA	NA	NA	0
12	wikipedia	NA	NA	NA	NA	0
13	scienceseeker	NA	NA	NA	NA	0
14	relativemetric	NA	NA	NA	NA	1346375
15	f1000	NA	NA	NA	NA	0
16	figshare	1	4	NA	NA	5
17	pmceurope	NA	NA	NA	NA	192
18	pmceuropedata	NA	NA	NA	NA	52
19	openedition	NA	NA	NA	NA	0
20	wordpress	NA	NA	NA	NA	0
21	reddit	NA	NA	NA	NA	0
22	datacite	NA	NA	NA	NA	0
23	copernicus	NA	NA	NA	NA	0
24	articlecoverage	NA	NA	NA	NA	0
25	articlecoveragecurated	NA	NA	NA	NA	0
26	plos_comments	NA	NA	NA	NA	0

```
# A single Mendeley UUID (mdid)
alm(mdid = "35791700-6d00-11df-a2b2-0026b95e3eb7"), -c(6:8)]
```

NULL

Search on many identifiers

```
dois <- c("10.1371/journal.pone.0001543", "10.1371/journal.pone.0040117", "10.1371/journal.pone.0029797",
"10.1371/journal.pone.0039395")
out <- alm(doi = dois)
lapply(out, head)
```

```
[[1]]
      .id pdf html shares groups comments likes citations total
1 citeulike NA  NA      0      NA      NA      NA      NA      0
2 crossref NA  NA      NA      NA      NA      NA      3      3
3 nature NA  NA      NA      NA      NA      NA      0      0
4 pubmed NA  NA      NA      NA      NA      NA      1      1
5 scopus NA  NA      NA      NA      NA      NA      5      5
6 counter 298 1408      NA      NA      NA      NA      NA 1719
```

```
[[2]]
```

	.id	pdf	html	shares	groups	comments	likes	citations	total
1	citeulike	NA	NA	0	NA	NA	NA	NA	0
2	crossref	NA	NA	NA	NA	NA	NA	0	0
3	nature	NA	NA	NA	NA	NA	NA	0	0
4	pubmed	NA	NA	NA	NA	NA	NA	1	1
5	scopus	NA	NA	NA	NA	NA	NA	0	0
6	counter	201	994	NA	NA	NA	NA	NA	1217

[[3]]

	.id	pdf	html	shares	groups	comments	likes	citations	total
1	citeulike	NA	NA	1	NA	NA	NA	NA	1
2	crossref	NA	NA	NA	NA	NA	NA	7	7
3	nature	NA	NA	NA	NA	NA	NA	4	4
4	pubmed	NA	NA	NA	NA	NA	NA	2	2
5	scopus	NA	NA	NA	NA	NA	NA	0	0
6	counter	2371	27772	NA	NA	NA	NA	NA	30251

[[4]]

	.id	pdf	html	shares	groups	comments	likes	citations	total
1	citeulike	NA	NA	0	NA	NA	NA	NA	0
2	crossref	NA	NA	NA	NA	NA	NA	7	7
3	nature	NA	NA	NA	NA	NA	NA	0	0
4	pubmed	NA	NA	NA	NA	NA	NA	6	6
5	scopus	NA	NA	NA	NA	NA	NA	8	8
6	counter	426	2580	NA	NA	NA	NA	NA	3046

Get altmetrics by year

You can also get metrics by day (`sum_metrics='day'`) or month (`sum_metrics='month'`)

```
alm(doi = "10.1371/journal.pone.0036240", sum_metrics = "year")[, -c(6:8)]
```

	.id	year	pdf	html	shares	citations	total	x
1	citeulike	2012	NA	NA	5	NA	5	NA
2	crossref	2013	NA	NA	NA	3	3	NA
3	nature	NA	NA	NA	NA	NA	NA	NA
4	pubmed	NA	NA	NA	NA	NA	NA	NA
5	scopus	NA	NA	NA	NA	NA	NA	NA
6	counter	2012	699	10502	NA	NA	11234	NA
7	counter	2013	299	3605	NA	NA	3911	NA
8	counter	2014	34	580	NA	NA	615	NA
9	researchblogging	2013	NA	NA	NA	1	1	NA
10	pmc	2012	16	53	NA	NA	69	NA
11	pmc	2013	13	66	NA	NA	79	NA
12	pmc	2014	2	0	NA	NA	2	NA
13	facebook	NA	NA	NA	NA	NA	NA	NA
14	mendeley	NA	NA	NA	NA	NA	NA	NA
15	twitter	2012	NA	NA	NA	NA	103	NA
16	twitter	2013	NA	NA	NA	NA	33	NA
17	twitter	2014	NA	NA	NA	NA	7	NA
18	wikipedia	NA	NA	NA	NA	NA	NA	NA
19	scienceseeker	NA	NA	NA	NA	NA	NA	NA
20	relativemetric	NA	NA	NA	NA	NA	NA	NA

21	f1000	NA	NA	NA	NA	NA	NA	NA
22	figshare	NA	NA	NA	NA	NA	NA	NA
23	pmceurope	NA	NA	NA	NA	NA	NA	NA
24	pmceuropedata	NA	NA	NA	NA	NA	NA	NA
25	openedition	NA	NA	NA	NA	NA	NA	NA
26	wordpress	2012	NA	NA	NA	1	1	NA
27	reddit	NA	NA	NA	NA	NA	NA	NA
28	datacite	NA	NA	NA	NA	NA	NA	NA
29	copernicus	NA	NA	NA	NA	NA	NA	NA
30	articlecoverage	NA	NA	NA	NA	NA	NA	NA
31	articlecoveragecurated	NA	NA	NA	NA	NA	NA	NA
32	plos_comments	NA	NA	NA	NA	NA	NA	NA

Output an-easy-to-combine-with-other-results dataframe

```
alm(doi = "10.1371/journal.pone.0035869", total_details = TRUE)[, 3:10]
```

	publication_date	citeulike_pdf	citeulike_html	citeulike_shares
1	2012-05-11T07:00:00Z	NA	NA	25
	citeulike_groups	citeulike_comments	citeulike_likes	citeulike_citations
1	NA	NA	NA	NA

Get altmetrics data for a single paper, and visualize the total data across dates

```
out <- alm(doi = "10.1371/journal.pone.0001543", info = "detail")
almplot(out, type = "totalmetrics")
```

Get detailed data for altmetrics using almevents

```
out <- almevents(doi = "10.1371/journal.pone.0029797")
names(out) # names of sources
```

[1]	"citeulike"	"crossref"
[3]	"nature"	"pubmed"
[5]	"scopus"	"counter"
[7]	"researchblogging"	"pmc"
[9]	"facebook"	"mendeley"
[11]	"twitter"	"wikipedia"
[13]	"scienceseeker"	"relativemetric"
[15]	"f1000"	"figshare"
[17]	"pmceurope"	"pmceuropedata"
[19]	"openedition"	"wordpress"
[21]	"reddit"	"datacite"
[23]	"copernicus"	"articlecoverage"
[25]	"articlecoveragecurated"	"plos_comments"

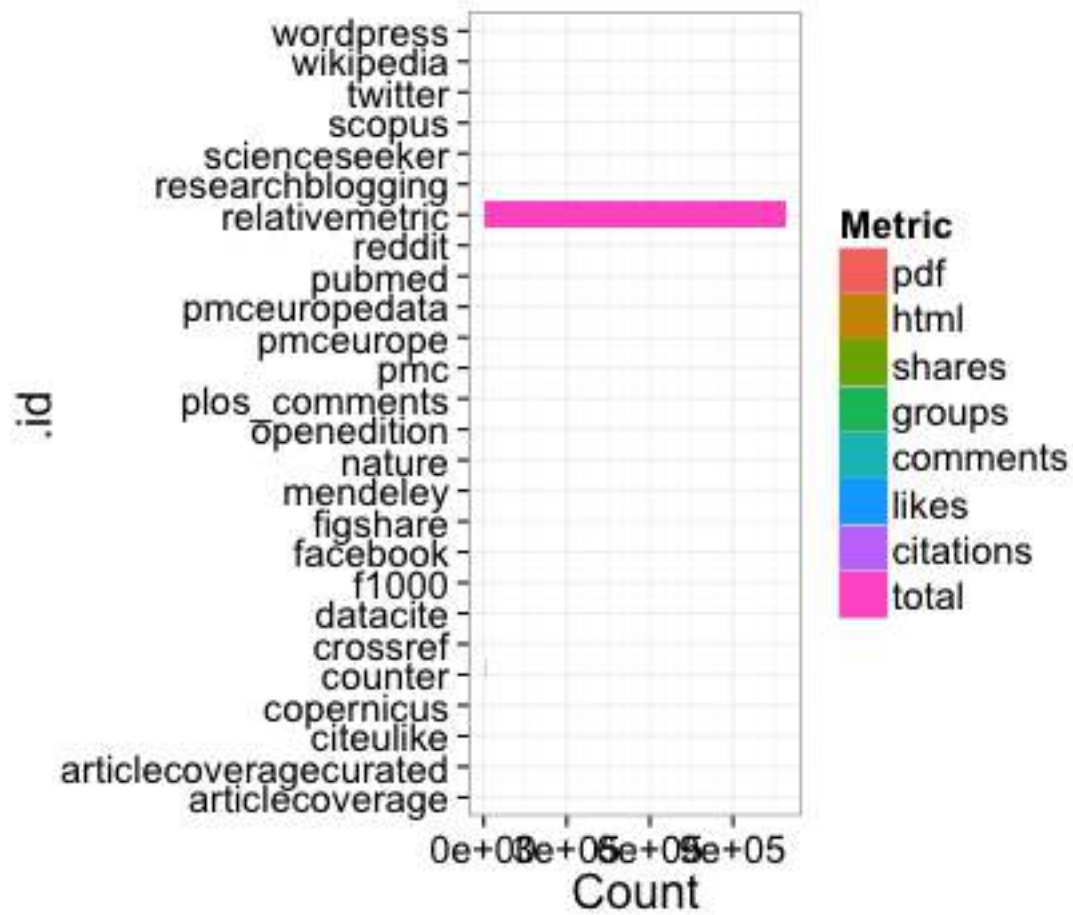


Figure 1: plot of chunk totalmets

```
out <- out[!out %in% c("sorry, no events content yet", "parser not written yet")] # remove those with :
out[["pmc"]] # get the results for PubMed Central
```

	abstract	cited-by	figure	full-text	month	pdf	scanned-page-browse
1	1	0	9	51	1	8	0
2	0	0	11	15	2	4	0
3	0	0	0	11	3	4	0
4	1	0	0	6	4	2	0
5	0	0	0	5	5	1	0
6	0	0	2	7	6	2	0
7	1	0	3	6	7	3	0
8	1	0	0	5	8	0	0
9	0	0	3	14	9	5	0
10	1	0	1	20	10	4	0
11	0	0	1	13	12	1	0
12	0	0	0	13	1	7	0
13	1	0	0	22	3	2	0
14	0	0	0	13	2	2	0
15	1	1	3	45	4	4	0
16	1	0	0	10	11	1	0
17	0	0	0	18	5	5	0
18	0	0	0	12	6	1	0
19	0	0	0	27	7	1	0
20	0	0	0	21	8	0	0
21	0	0	0	14	9	0	0
22	0	0	2	14	10	3	0
23	6	0	0	18	11	2	0
24	0	0	0	14	12	1	0
25	0	0	0	22	1	1	0

	scanned-summary	supp-data	unique-ip	year
1	0	0	42	2012
2	0	2	11	2012
3	0	0	12	2012
4	0	0	6	2012
5	0	0	5	2012
6	0	0	9	2012
7	0	0	8	2012
8	0	0	4	2012
9	0	0	13	2012
10	0	0	16	2012
11	0	0	12	2012
12	0	0	14	2013
13	0	0	20	2013
14	0	0	10	2013
15	0	1	24	2013
16	0	0	9	2012
17	0	1	21	2013
18	0	1	11	2013
19	0	0	14	2013
20	0	0	13	2013
21	0	1	13	2013
22	0	0	15	2013
23	0	0	16	2013


```

24          0          0          9 2013
25          0          0          16 2014

```

```

out[["twitter"]] # get the results for twitter (boo, there aren't any)

```

```

          id
1 237088032224849920
2 237088322290331648
3 263798980054487041
4 263799348842872832
5 263960642589949953
6 282528931503038464
7 282528931612082177
8 284131287810338818
9 313850610174799873
10 403828926247878656
11 435274395284553728

```

```

1          #PLOS: Ecological Guild Evolution and the Discovery of the World's S
2          #PLOS: Ecological Guild Evolution and the Discovery of the World's S
3      Happy #Halloween from Maria @PLOSONE, dressed as a tiny frog, complete with dime for scale! h
4 RT @multidiscipline: Happy #Halloween from Maria @PLOSONE, dressed as a tiny frog, complete with dime
5 RT @multidiscipline: Happy #Halloween from Maria @PLOSONE, dressed as a tiny frog, complete with dime
6          2012: Discovery of the World's Smallest Vertebrate: a frog http://t.co/BwxxRTdm in @PLOS
7          2012: Descubrimiento del vertebrado más pequeño: una rana http://t.co/BwxxRTdm in @PLOS
8
9          Ecological Guild Evolution and the Discovery of the World's Sm
10      @Specklet Cool! We had a paper on the smallest frog too, but picture is of it sitting on a dime
11

```

```

          created_at          user          user_name
1 Sun Aug 19 07:26:06 +0000 2012 opdebult Jan ten Hoopen
2 Sun Aug 19 07:27:15 +0000 2012 forestalis forestalis.org
3 Thu Nov 01 00:25:53 +0000 2012 multidiscipline Lindsay Kelley
4 Thu Nov 01 00:27:20 +0000 2012 BernScience Rachel Bernstein
5 Thu Nov 01 11:08:16 +0000 2012 mattjhodgkinson Matt Hodgkinson
6 Sat Dec 22 16:52:01 +0000 2012 sferrebenedicto Salva Ferré B.
7 Sat Dec 22 16:52:01 +0000 2012 sferrebenedicto Salva Ferré B.
8 Thu Dec 27 02:59:12 +0000 2012 LeeAnaconda LeeAnn
9 Tue Mar 19 03:13:11 +0000 2013 didicikit FGÇ
10 Fri Nov 22 10:14:53 +0000 2013 mattjhodgkinson Matt Hodgkinson
11 Mon Feb 17 04:47:57 +0000 2014 MsMeechieMeech Demetrice Thompson

```

```

          user_profile_image
1          http://a0.twimg.com/profile_images/1741153180/Tidan_normal.jpg
2          http://a0.twimg.com/profile_images/654250700/ForestalisIco_normal.jpg
3 http://a0.twimg.com/profile_images/1910116023/261235_920680811178_6708085_43508969_7138379_n_normal.jpg
4          http://a0.twimg.com/profile_images/1788875907/new_normal.jpg
5          http://a0.twimg.com/profile_images/2595571976/bc2za9tnyui0wxobreb0_normal.jpg
6          http://a0.twimg.com/profile_images/2935384666/94c858315bbf621ae3916019026a6c24_normal.jpg
7          http://a0.twimg.com/profile_images/2935384666/94c858315bbf621ae3916019026a6c24_normal.jpg
8          http://a0.twimg.com/profile_images/2765018809/5b540749006aaf85c5661c67d93b68e7_normal.jpg
9          http://a0.twimg.com/profile_images/1809269429/hop_normal.jpg
10          http://pbs.twimg.com/profile_images/2595571976/bc2za9tnyui0wxobreb0_normal.jpg
11          http://pbs.twimg.com/profile_images/416963593188302848/WNE4ujvS_normal.jpg

```

```
out[c("twitter", "crossref")] # get the results for two sources
```

```
$twitter
```

```

      id
1 237088032224849920
2 237088322290331648
3 263798980054487041
4 263799348842872832
5 263960642589949953
6 282528931503038464
7 282528931612082177
8 284131287810338818
9 313850610174799873
10 403828926247878656
11 435274395284553728

```

```

1                                     #PLOS: Ecological Guild Evolution and the Discovery of the World's S
2                                     #PLOS: Ecological Guild Evolution and the Discovery of the World's S
3      Happy #Halloween from Maria @PLOSONE, dressed as a tiny frog, complete with dime for scale! h
4 RT @multidiscipline: Happy #Halloween from Maria @PLOSONE, dressed as a tiny frog, complete with dime
5 RT @multidiscipline: Happy #Halloween from Maria @PLOSONE, dressed as a tiny frog, complete with dime
6      2012: Discovery of the World's Smallest Vertebrate: a frog http://t.co/BwxxRTdm in @PLOS
7      2012: Descubrimiento del vertebrado más pequeño: una rana http://t.co/BwxxRTdm in @PLOS
8
9                                     Ecological Guild Evolution and the Discovery of the World's Sm
10      @Specklet Cool! We had a paper on the smallest frog too, but picture is of it sitting on a dime
11                                     My son

```

```

      created_at      user      user_name
1 Sun Aug 19 07:26:06 +0000 2012      opdebult      Jan ten Hoopen
2 Sun Aug 19 07:27:15 +0000 2012      forestalis      forestalis.org
3 Thu Nov 01 00:25:53 +0000 2012 multidiscipline      Lindsay Kelley
4 Thu Nov 01 00:27:20 +0000 2012      BernScience      Rachel Bernstein
5 Thu Nov 01 11:08:16 +0000 2012 mattjhodgkinson      Matt Hodgkinson
6 Sat Dec 22 16:52:01 +0000 2012 sferrebenedicto      Salva Ferré B.
7 Sat Dec 22 16:52:01 +0000 2012 sferrebenedicto      Salva Ferré B.
8 Thu Dec 27 02:59:12 +0000 2012      LeeAnaconda      LeeAnn
9 Tue Mar 19 03:13:11 +0000 2013      didicikit      FGÇ
10 Fri Nov 22 10:14:53 +0000 2013 mattjhodgkinson      Matt Hodgkinson
11 Mon Feb 17 04:47:57 +0000 2014 MsMeechieMeech Demetrice Thompson

```

```

      user_profile_image
1      http://a0.twimg.com/profile_images/1741153180/Tidan_normal.jpg
2      http://a0.twimg.com/profile_images/654250700/ForestalisIco_normal.jpg
3      http://a0.twimg.com/profile_images/1910116023/261235_920680811178_6708085_43508969_7138379_n_normal.jpg
4      http://a0.twimg.com/profile_images/1788875907/new_normal.jpg
5      http://a0.twimg.com/profile_images/2595571976/bc2za9tnyui0wxobreb0_normal.jpg
6      http://a0.twimg.com/profile_images/2935384666/94c858315bbf621ae3916019026a6c24_normal.jpg
7      http://a0.twimg.com/profile_images/2935384666/94c858315bbf621ae3916019026a6c24_normal.jpg
8      http://a0.twimg.com/profile_images/2765018809/5b540749006aaf85c5661c67d93b68e7_normal.jpg
9      http://a0.twimg.com/profile_images/1809269429/hop_normal.jpg
10      http://pbs.twimg.com/profile_images/2595571976/bc2za9tnyui0wxobreb0_normal.jpg
11      http://pbs.twimg.com/profile_images/416963593188302848/WNE4ujvS_normal.jpg

```

```
$crossref
```

	issn	journal_title
1	1439-6092; 1618-1077	Organisms Diversity & Evolution
2	1313-2970; 1313-2989	ZooKeys
3	00218790	Journal of Animal Ecology
4	1936-6426; 1936-6434	Evolution: Education and Outreach
5	0018-0831; 1938-5099	Herpetologica
6	10557903	Molecular Phylogenetics and Evolution
7	00244066	Biological Journal of the Linnean Society

	journal_abbreviation
1	Org Divers Evol
2	ZOOKEYS
3	J Anim Ecol
4	Evo Edu Outreach
5	Herpetologica
6	Molecular Phylogenetics and Evolution
7	Biol J Linn Soc Lond

1	New insights into the systematics and molecular phylogeny of the Malagasy snake genus <i>Liopholidophis</i> s	Accele
2		
3		
4		
5	A New Species of Miniaturized Toadlet, Genus <i>Brachycephalus</i>	
6	Genetic diversity, phylogeny and evolution of alkaloid s	
7		Are dim
		contribu
1	Frank Glaw; Christoph Kucharczywski; Zoltán T. Nagy; Oliver Hawlitschek; Miguel Ven	
2	Terry Erwin; Lyubomir Penev; Pavel Stoev; Teodor Georg	
3	Andrew D. C. MacColl; Aliya El Nagar; Job de Roij; Tom W	
4		Kenneth J. McNam
5	Rute B. G Clemente-Carvalho; Ariovaldo A Giarretta; Thais H Condez; Célio F. B Haddad; Sergio F. dos R	
6	Ariel Rodríguez; Dennis Poth; Stefan Schulz; Marcelo Gehara; Miguel Ven	
7		Kenneth D. Angielczyk; Chris R. Feldr

	year	publication_type	doi	fl_count	volume
1	2013	full_text	10.1007/s13127-013-0152-4	0	<NA>
2	2012	full_text	10.3897/zookeys.251.4516	2	251
3	2013	full_text	10.1111/1365-2656.12028	0	82
4	2012	full_text	10.1007/s12052-012-0420-3	2	5
5	2012	full_text	10.1655/HERPETOLOGICA-D-11-00085.1	0	68
6	2013	full_text	10.1016/j.ympev.2013.04.031	0	68
7	2013	full_text	10.1111/bij.12010	1	108

	issue	first_page
1	<NA>	<NA>
2	0	1
3	3	642
4	2	203
5	3	365
6	3	541
7	4	727

Alt-metrics total citations from all sources.

```
almtotals(doi = "10.1371/journal.pbio.0000012")
```

```
      views shares bookmarks citations  
1 30208      0      112      324
```

Get title of article by inputting the doi for the article.

```
almtitle(doi = "10.1371/journal.pbio.0000012")
```

```
[1] "Genome-Wide RNAi of C. elegans Using the Hypersensitive rrf-3 Strain Reveals Novel Gene Functions"
```

Retrieve and plot PLOS article-level metrics signposts.

```
dat <- signposts(doi = "10.1371/journal.pone.0029797")  
plot_signposts(input = dat)
```

Or plot many identifiers gives a line chart

```
dois <- c("10.1371/journal.pone.0001543", "10.1371/journal.pone.0040117", "10.1371/journal.pone.0029797",  
         "10.1371/journal.pone.0039395")  
dat <- signposts(doi = dois)  
plot_signposts(input = dat)
```

Or make an interactive chart by doing `plot_signposts(input=dat, type="multiBarChart")`. Try it out! It should open in your browser and you can interact with it.

Density and histogram plots from PLOS Article Level Metrics data

Note: Do you the key below in the `searchplos` call in this example, but if you plan to use `rplos` more, get your own API key [here](#).

```
library(rplos)  
library(plyr)  
dois <- searchplos(terms = "science", fields = "id", toquery = list("cross_published_journal_key:PloSONI",  
                          "doc_type:full", "publication_date:[2010-01-01T00:00:00Z TO 2010-12-31T23:59:59Z]"),  
                  limit = 200)
```

Remove non-full article DOIs

```
dois <- dois$id  
dois <- dois[!grepl("annotation", dois)]
```

Collect altmetrics data and combine to a `data.frame` with `ldply`

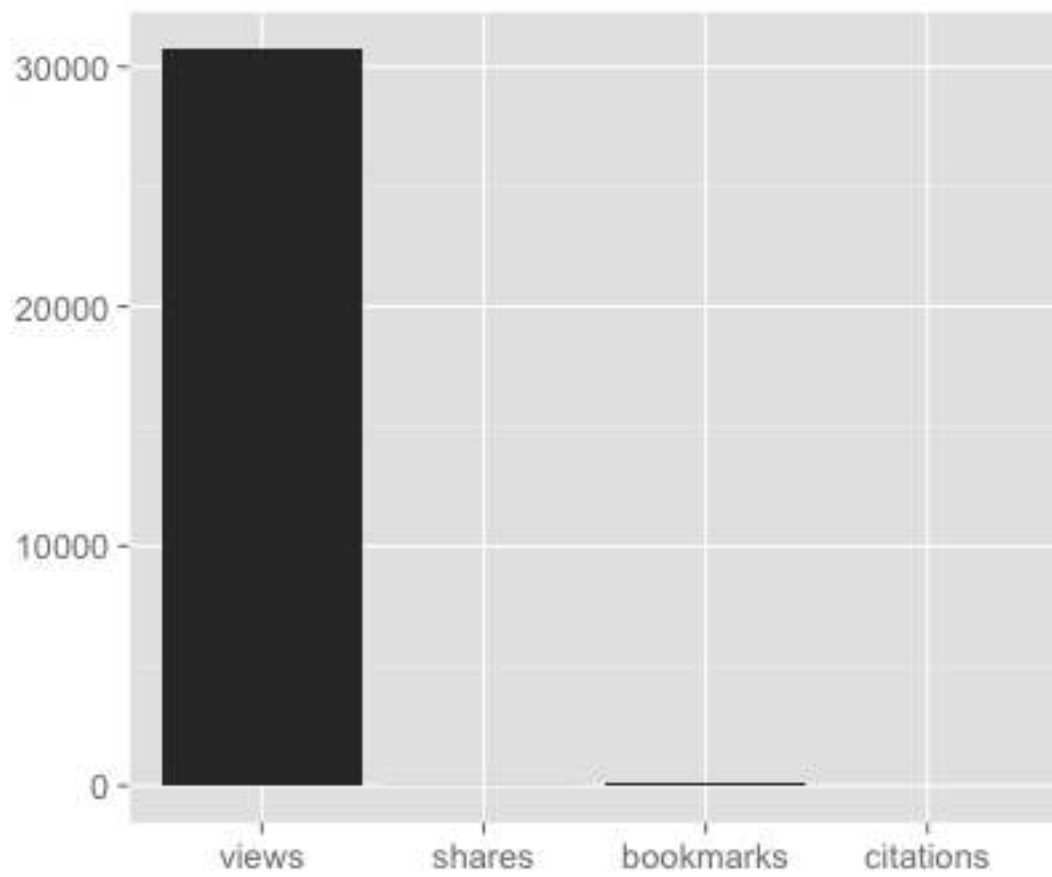


Figure 2: plot of chunk signposts1

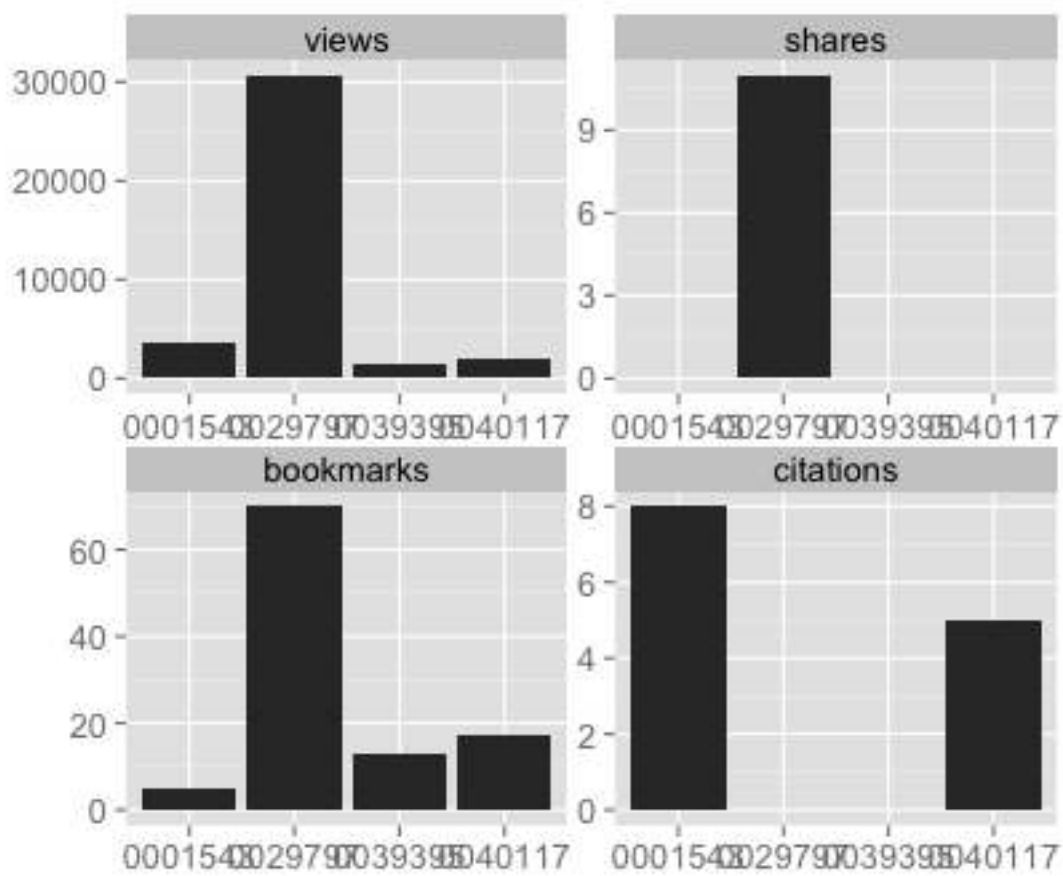


Figure 3: plot of chunk signposts2

```
alm <- alm(doi = dois, total_details = TRUE)
alm <- ldply(alm)
```

The default plot

```
plot_density(alm)
```

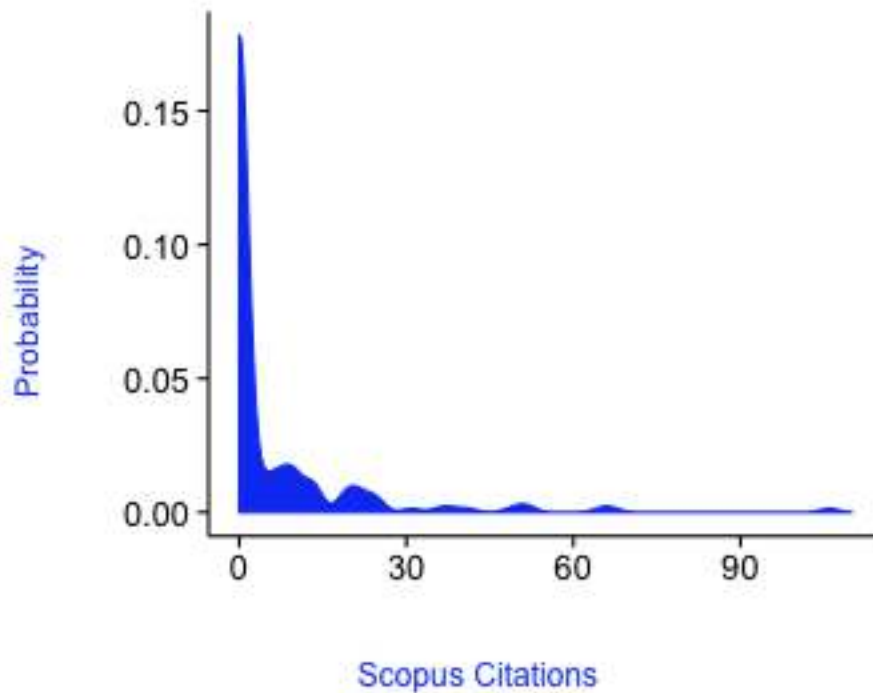


Figure 4: plot of chunk plot_densityplot1

You can change the color of the density plot

```
plot_density(alm, color = "#EFA5A5")
```

Pass in a title or description subtending the title

```
plot_density(alm, title = "Scopus citations from 2010")
```

Plot a particular source

```
names(alm)[1:35]
```

```
[1] ".id"           "doi"           "title"
[4] "publication_date" "citeulike_pdf" "citeulike_html"
[7] "citeulike_shares" "citeulike_groups" "citeulike_comments"
[10] "citeulike_likes" "citeulike_citations" "citeulike_total"
[13] "crossref_pdf"    "crossref_html"    "crossref_shares"
```

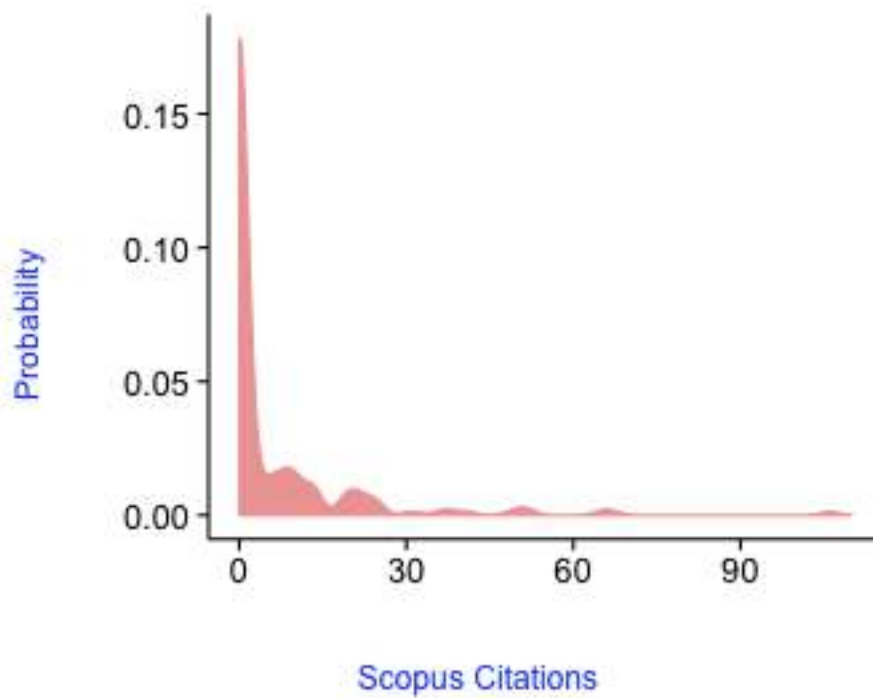


Figure 5: plot of chunk plot_densityplot2

Scopus citations from 2010

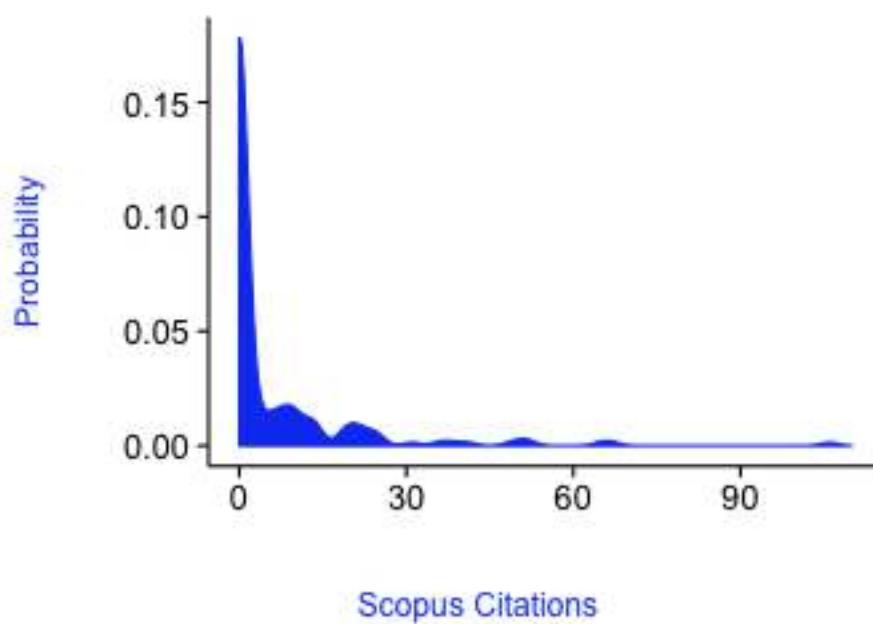


Figure 6: plot of chunk plot_densityplot3


```

[16] "crossref_groups"      "crossref_comments"  "crossref_likes"
[19] "crossref_citations"  "crossref_total"     "nature_pdf"
[22] "nature_html"         "nature_shares"      "nature_groups"
[25] "nature_comments"     "nature_likes"       "nature_citations"
[28] "nature_total"        "pubmed_pdf"         "pubmed_html"
[31] "pubmed_shares"       "pubmed_groups"      "pubmed_comments"
[34] "pubmed_likes"        "pubmed_citations"

```

```
plot_density(input = alm, source = "crossref_citations")
```

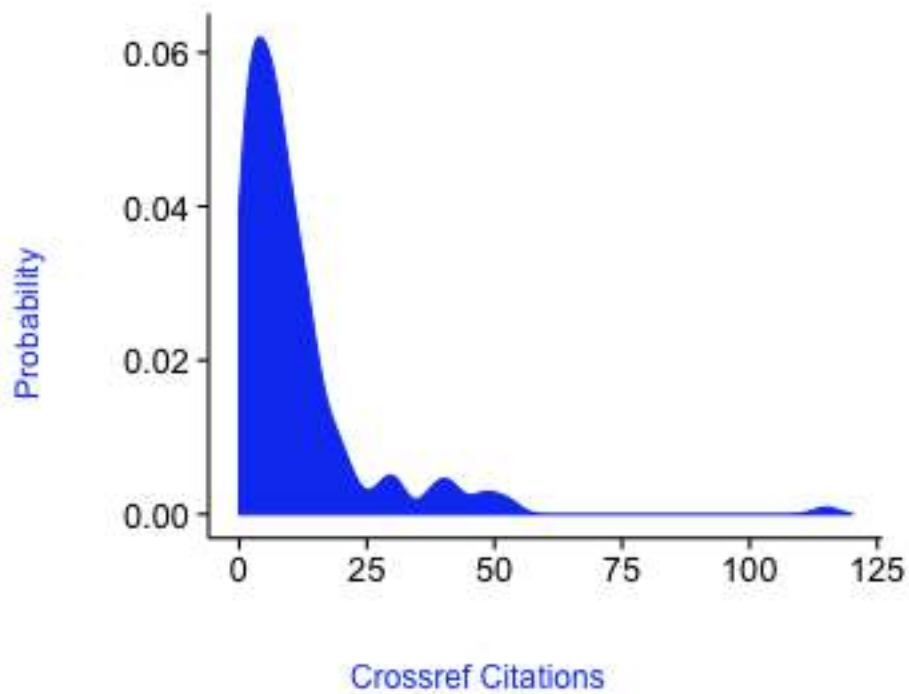


Figure 7: plot of chunk plot_densityplot4

Plot many sources in different panels in the same plot, and pass in colors just for fun

```

plot_density(input = alm, source = c("counter_total", "crossref_citations",
  "twitter_total", "wos_citations"), color = c("#83DFB4", "#EFA5A5", "#CFD470",
  "#B2C9E4"))

```

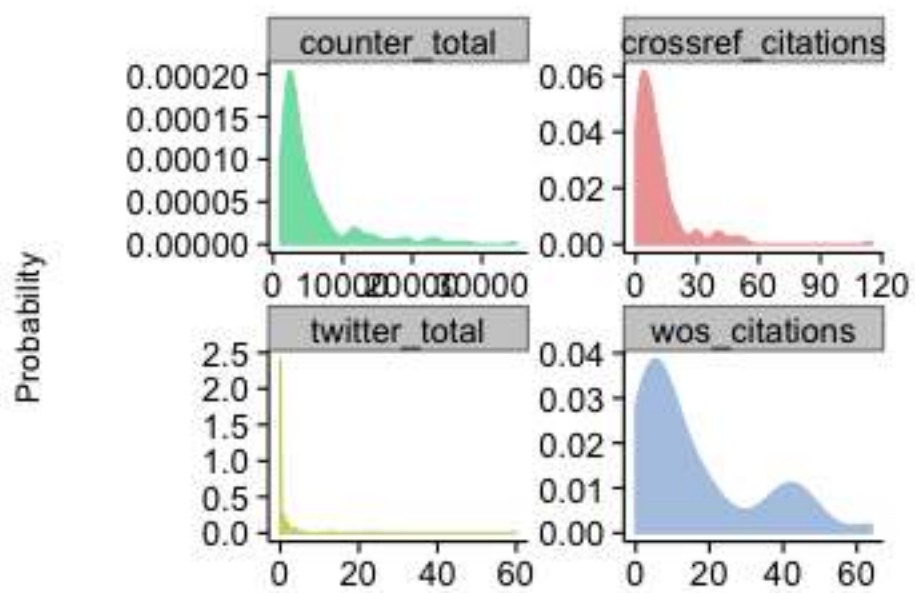


Figure 8: plot of chunk plot_densityplot5