

Political Polarization on Twitter

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CNetS

Center for Complex Networks
and Systems Research

Information & Democracy

DELIBERATIVE DEMOCRACY

PUBLIC FORUM DOCTRINE & GENERAL INTEREST INTERMEDIARIES

MYOPIA & THE NETWORKED PUBLIC SPHERE

Benkler, Y. [The Wealth of Networks](#), 2005. [1]

Sunstein, C. [Republic.com](#), 2002. [2]

#P2

#TEAPARTY

#TLOT

#NVSEN

#GOP

#TCOT

NETWORKS OF POLITICAL DISCOURSE

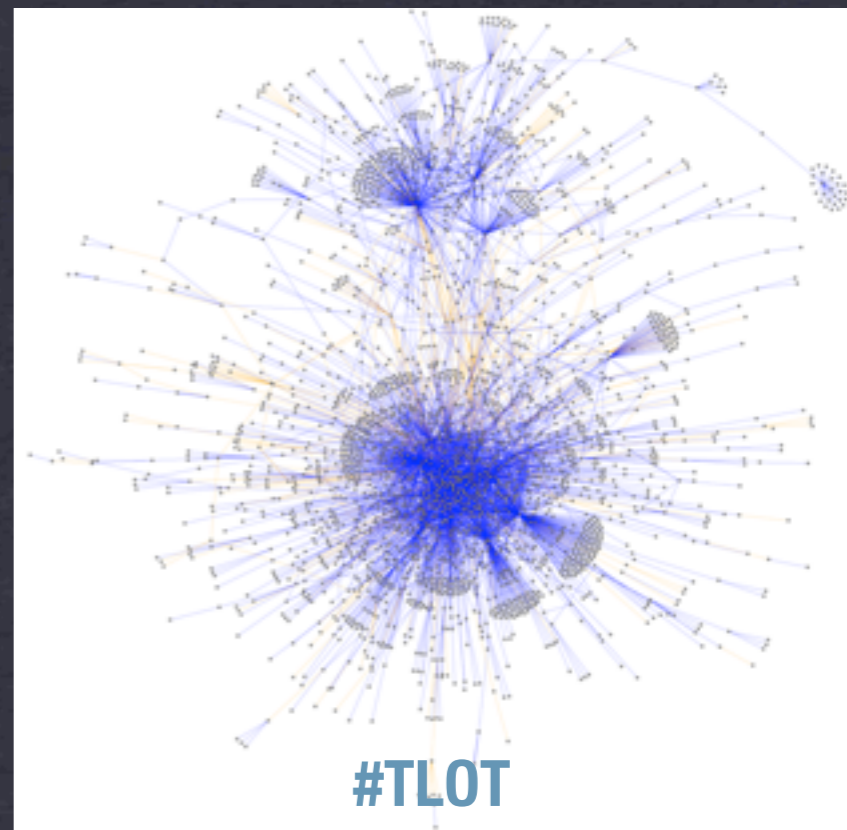
ATOMIC STRUCTURE



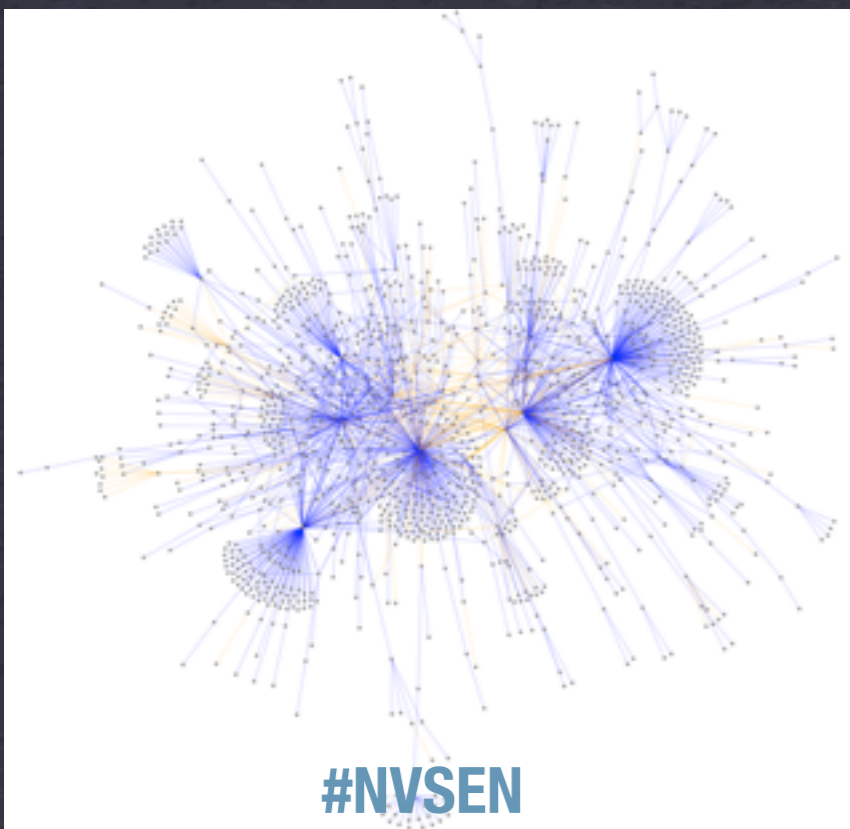
#P2



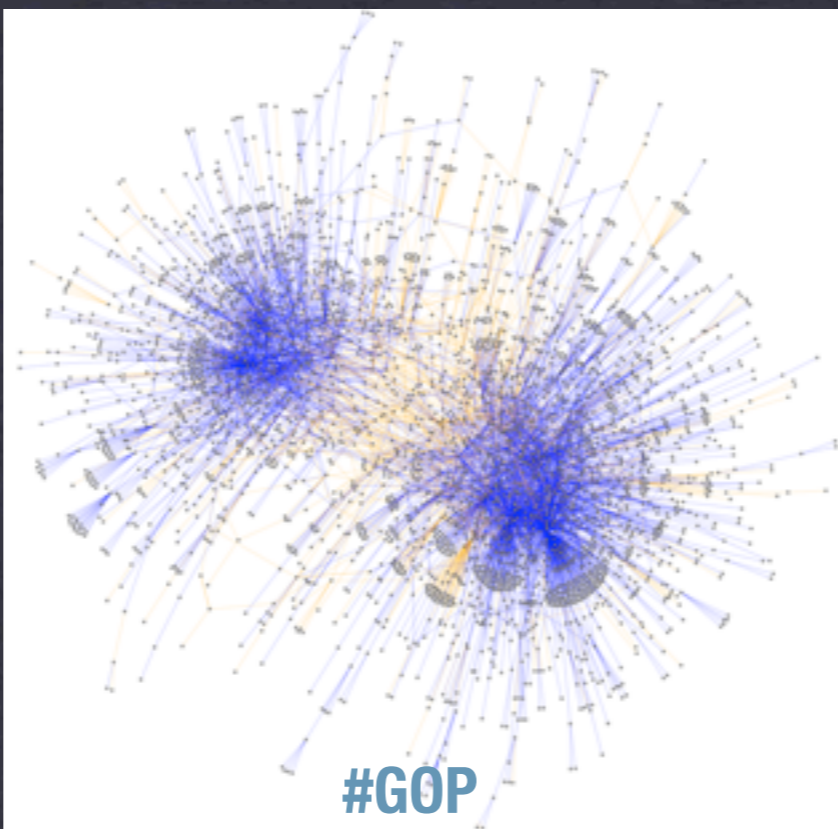
#TEAPARTY



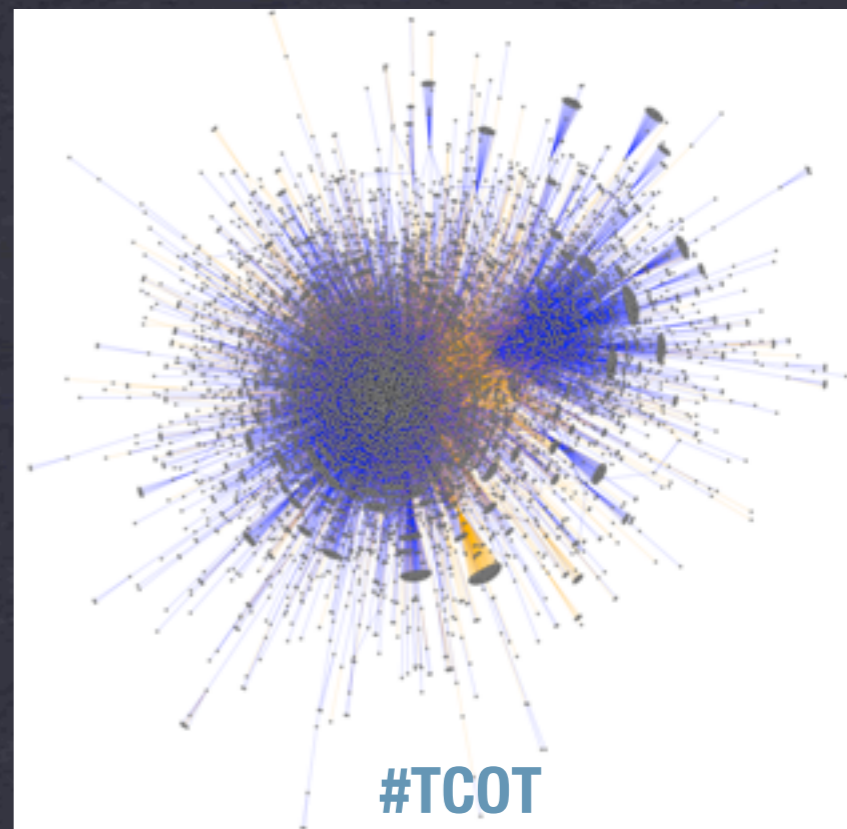
#TLOT



#NVSEN



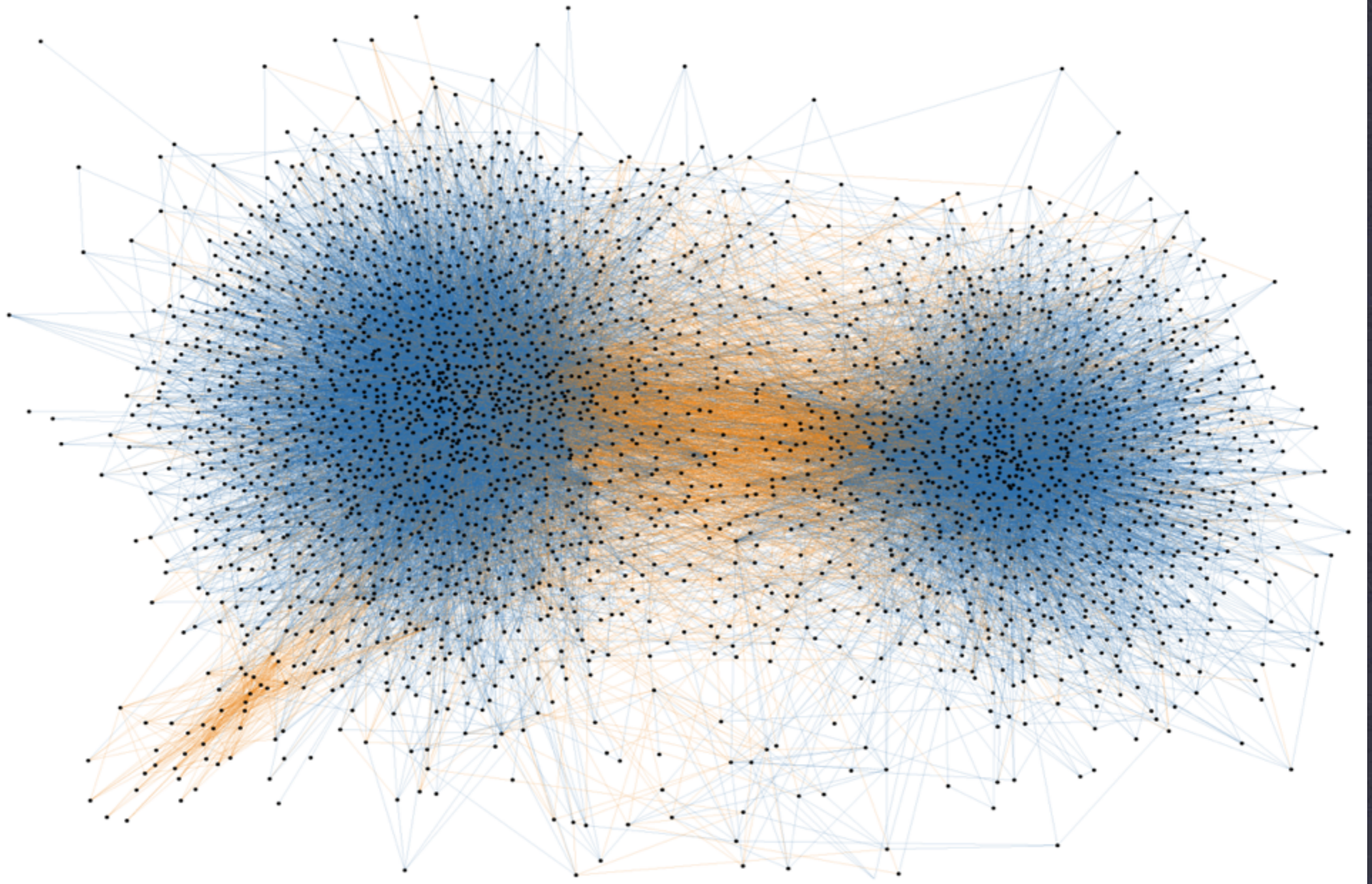
#GOP



#TCOT

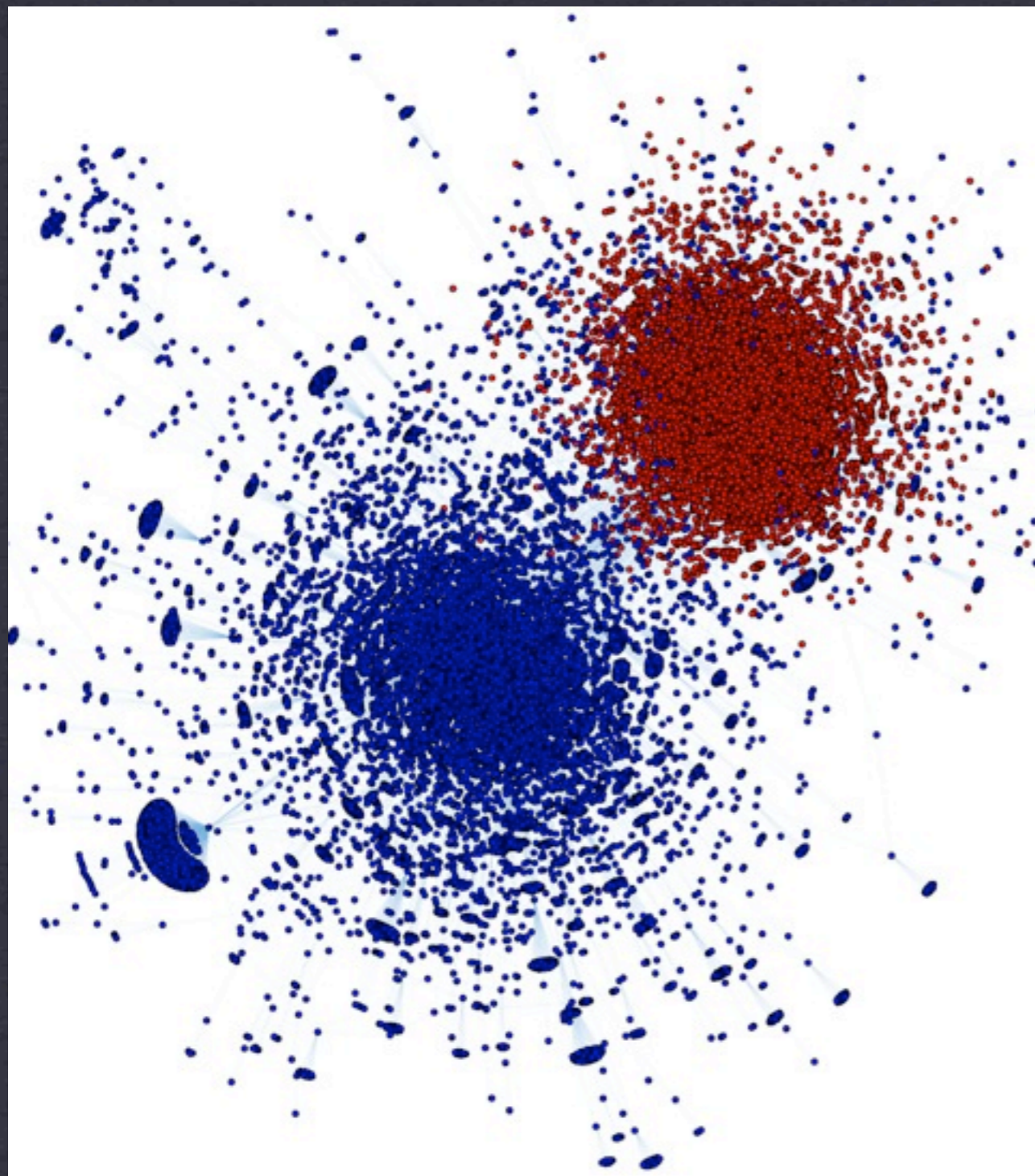
NETWORKS OF POLITICAL DISCOURSE

ATOMIC STRUCTURE

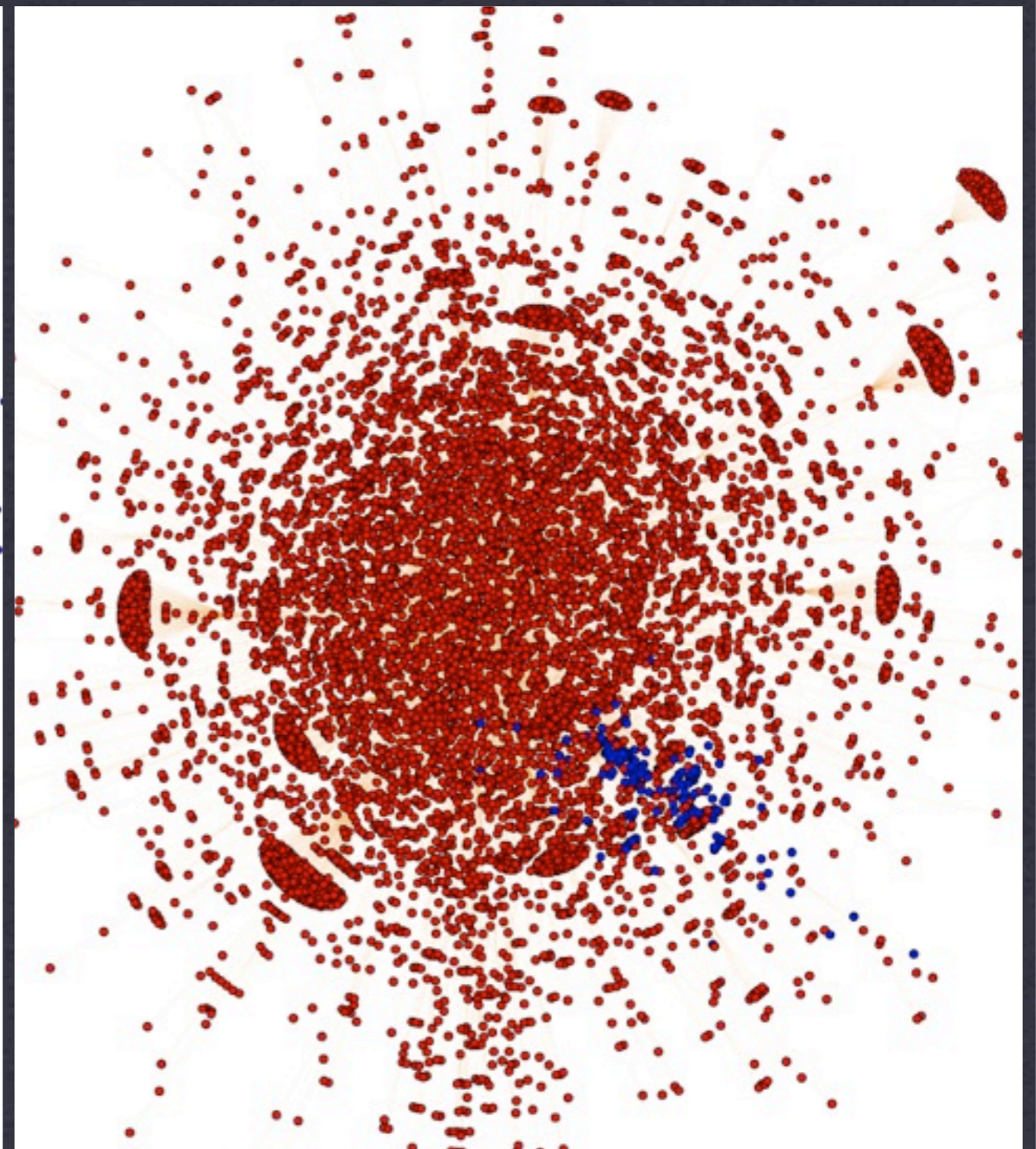


NETWORKS OF POLITICAL DISCOURSE

AGGREGATE STRUCTURE



RETWEET



MENTION

NETWORKS OF POLITICAL DISCOURSE

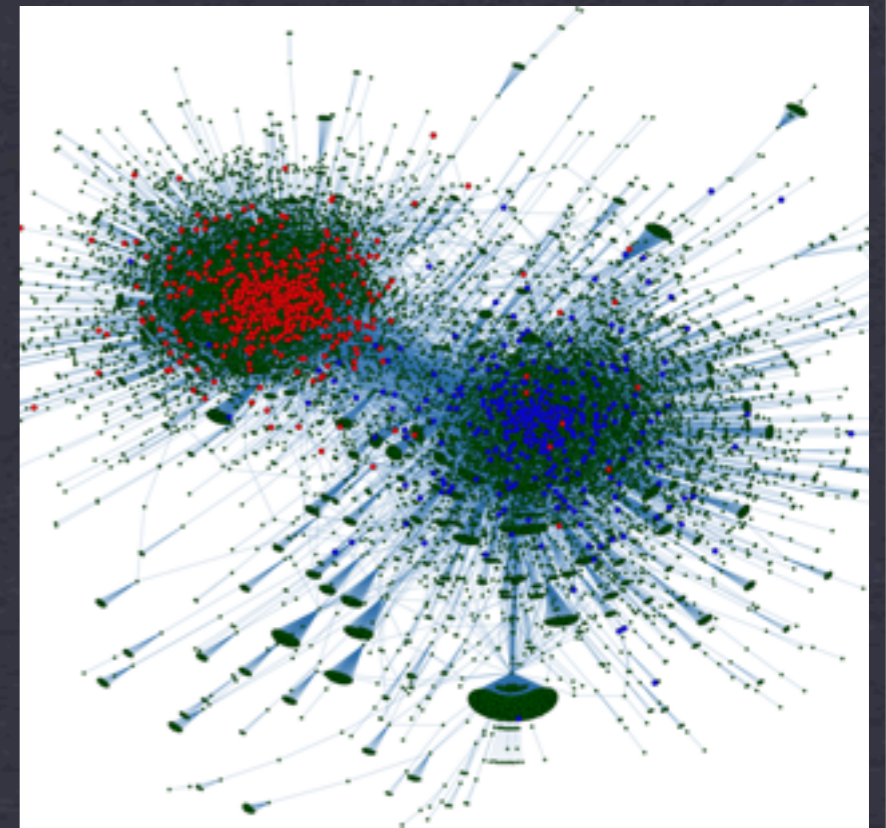
MULTI-MODE COMMUNICATION

QUALITATIVE CONTENT ANALYSIS

LEFT UNDECIDABLE RIGHT

1,000 RANDOM USERS

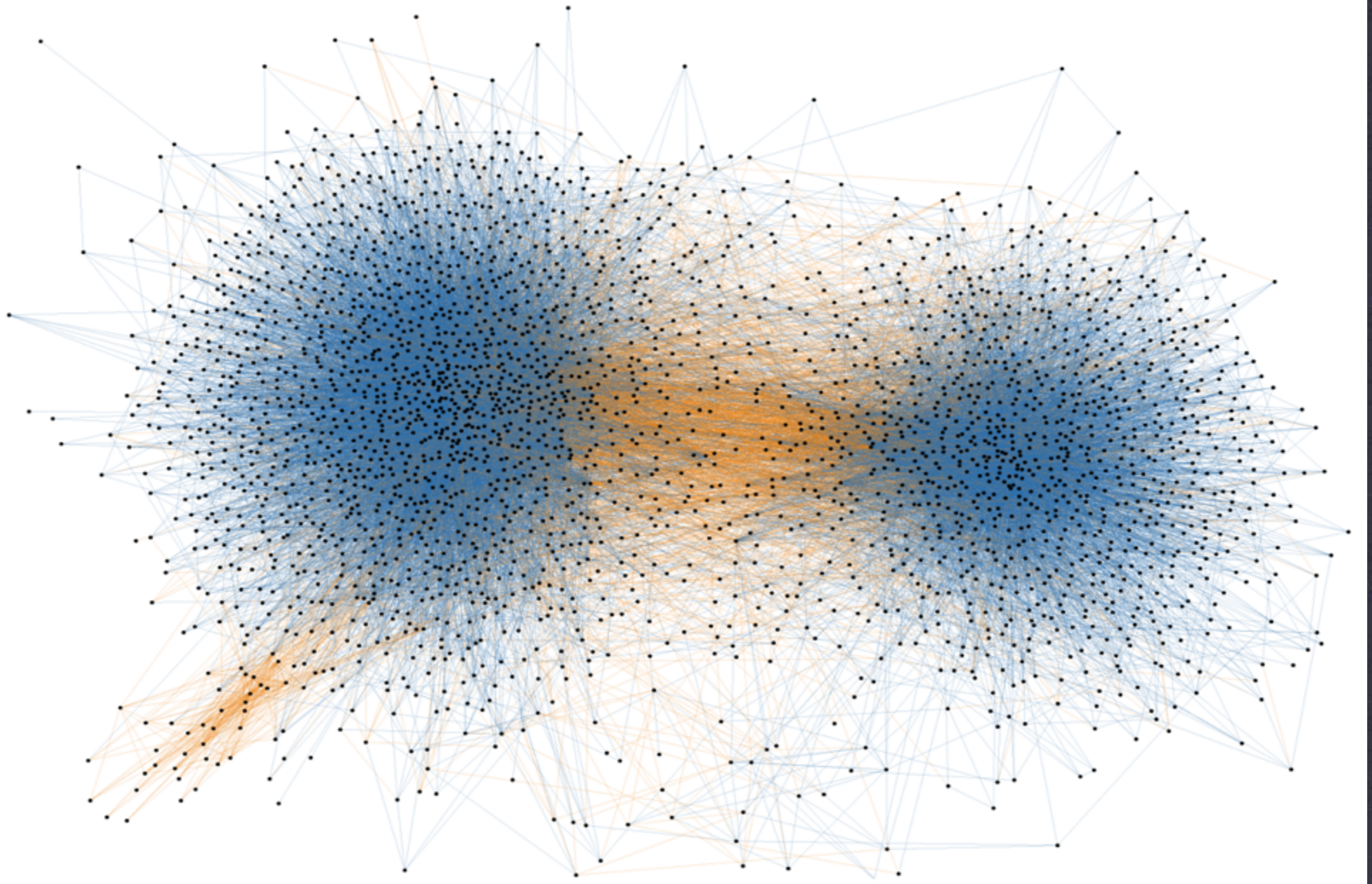
2 AUTHORS, 1 NON-AUTHOR JUDGE



	Cluster	Left	Right	Und.	Nodes
Retweet	A	1.1	93.4	5.3	7,115
	B	80.1	8.7	11.1	11,355
Mention	A	39.5	52.2	8.1	7,021
	B	9.5	85.7	4.7	154

POLITICAL IDENTITY

PARTISAN DIVIDE



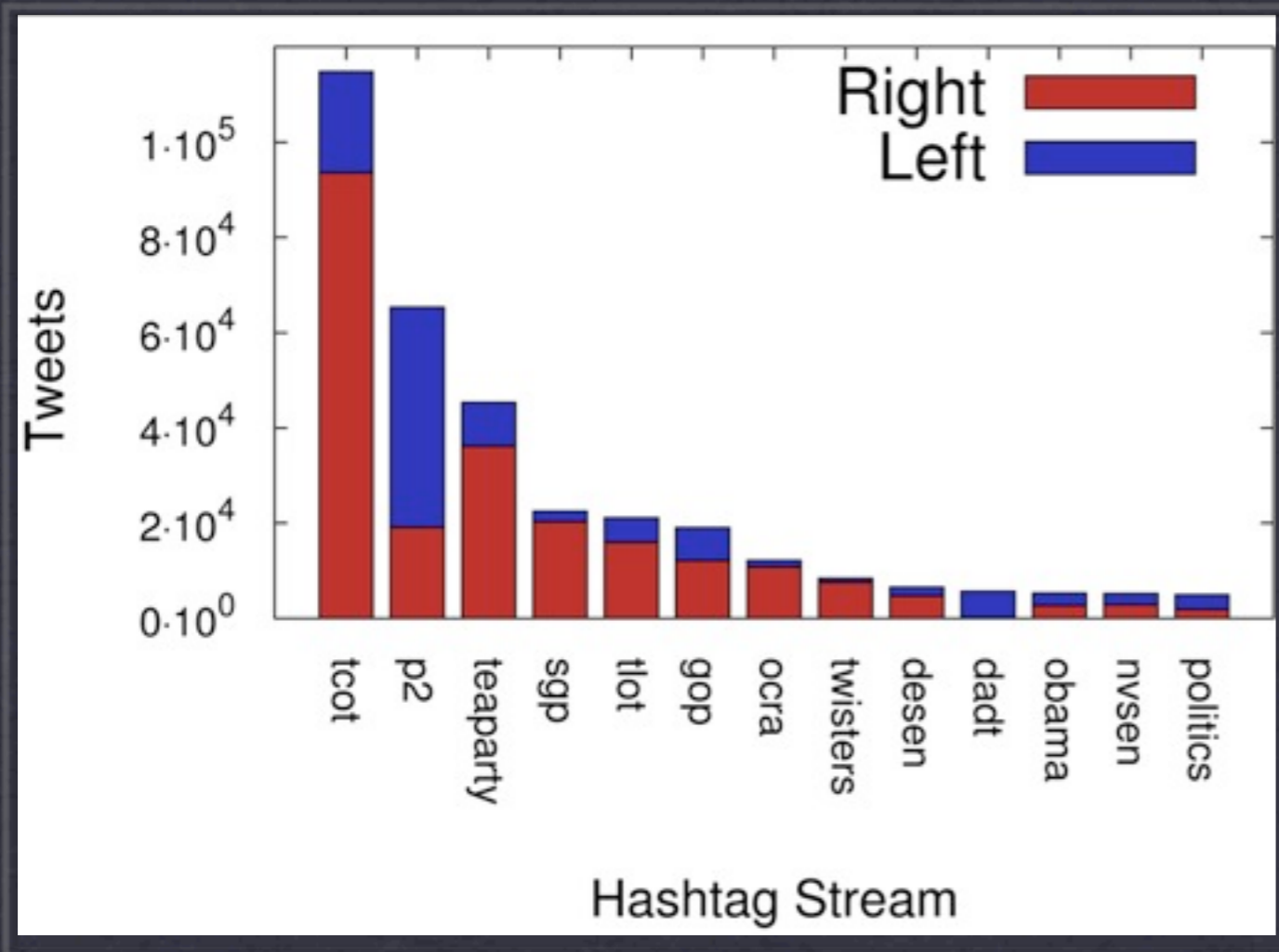
CROSS-IDEOLOGICAL INTERACTION

AGGREGATE STRUCTURE

Please follow @username for an outstanding progressive voice! #p2 #dems #prog #democrats #tcot

Couple Aborts Twin Boys For Being Wrong Gender ..
<http://bit.ly/xyz> #tcot #hhhs #christian #tlot #teaparty #sgp #p2 #prolife

Content Injection



IMPORTANCE OF A CONTENT STREAM

$$I(t, A) = \frac{N(t, A)}{\sum_t N(t, A)}$$

Far Left	Moderate Left	Centrist	Moderate Right	Far Right
#healthcare #judaism #hollywood #2010elections #capitalism #security #publicoption #recession #dreamact #topprogs	#aarp #citizensunited #democratic #banksters #energy #sarahpalin #progressives #stopbeck #iraq #women	#democrats #social #seniors #dnc #budgets #political #gopproud #christian #media #nobel	#rangel #waste #saveamerica #american #gold #repeal #mexico #terrorism #gopleader #palin12	#912project #twisters #gop2112 #israel #foxnews #mediabias #constitution #patriots #rednov #abortion

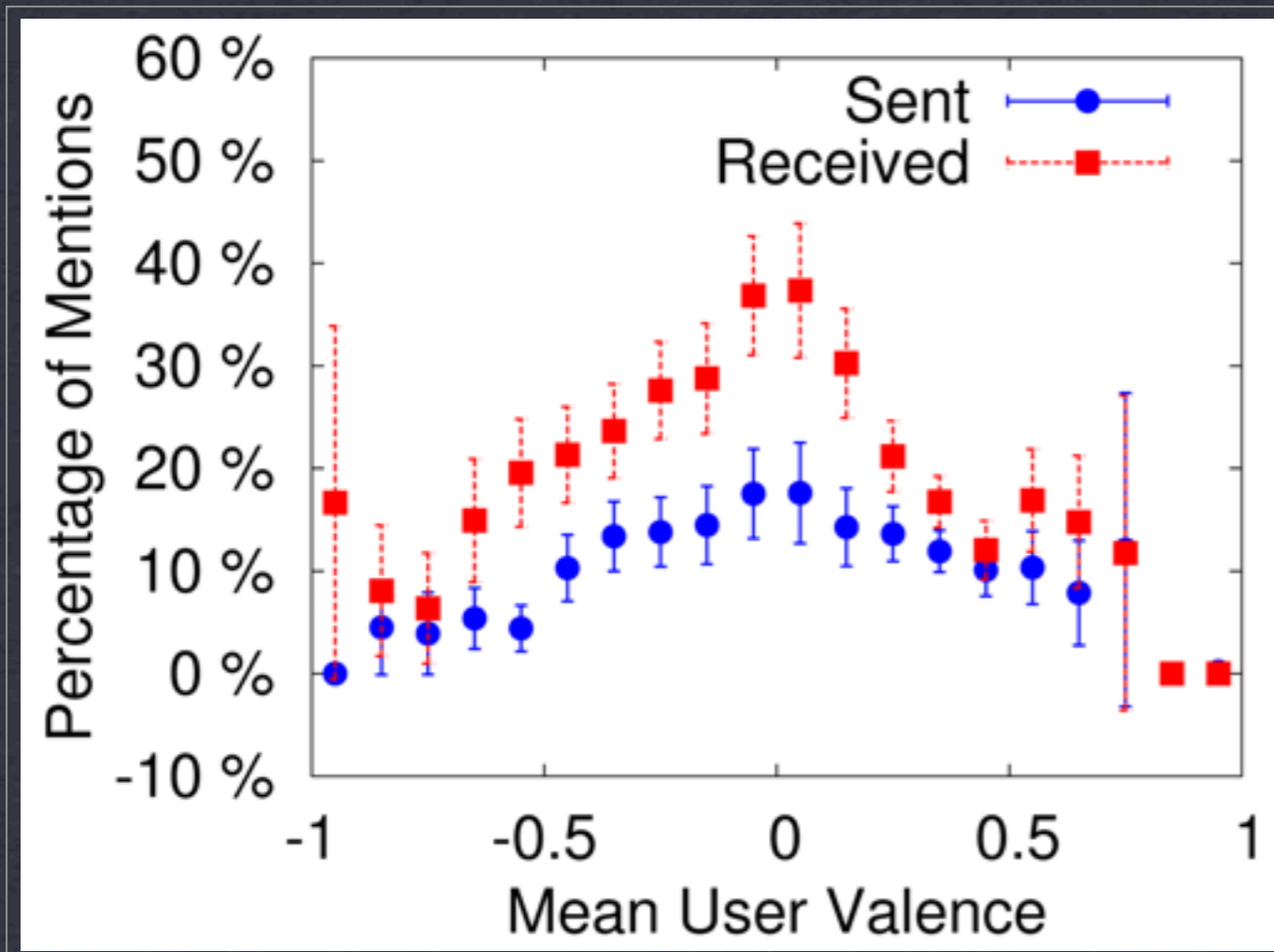
$$V(t) = 2 \frac{I(t, R)}{I(t, R) + I(t, L)} - 1$$

PARTISAN LANGUAGE

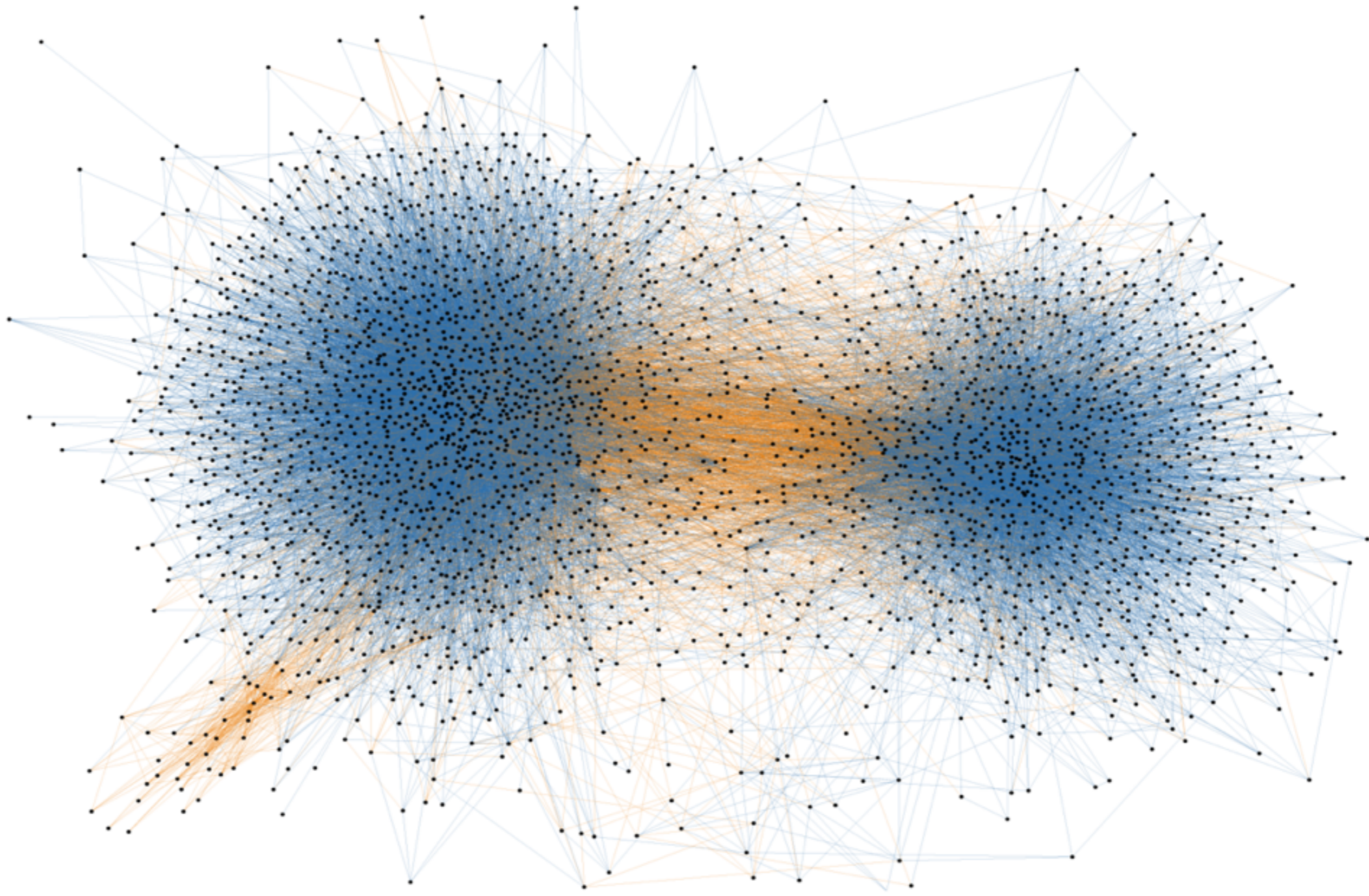
MEASURE **VALENCE**

TABLE **POLITICAL HASHTAGS**

Cross-Ideological Interaction



Rank	Hashtag	Left	Right	Valence
1	#tcot	2,949	13,574	0.384
2	#p2	6,269	3,153	-0.605
3	#teaparty	1,261	5,368	0.350
4	#tlot	725	2,156	0.184
5	#gop	736	1,951	0.128
6	#sgp	226	2,563	0.694
7	#ocra	434	1,649	0.323
8	#dems	953	194	-0.818
9	#twisters	41	990	0.843
10	#palin	200	838	0.343
Total		26,341	53,880	

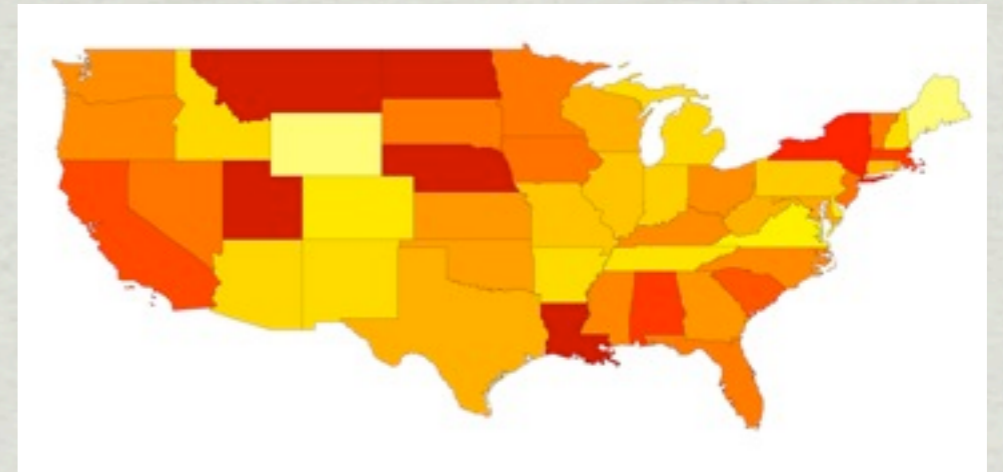


CROSS-IDEOLOGICAL INTERACTION

AGGREGATE STRUCTURE

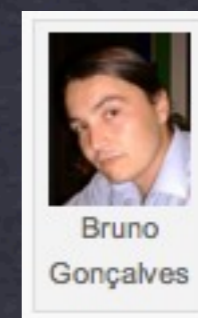
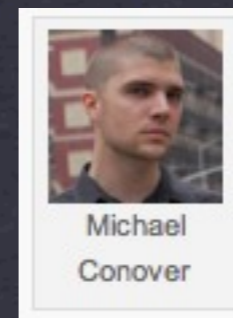
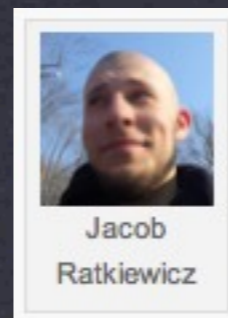
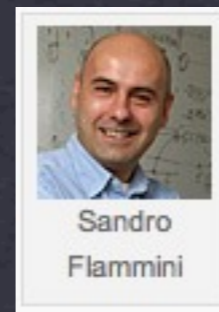
Related Work

- ✱ Predicting the Political Alignment of Twitter Users (KDD 2011)
- ✱ Partisan Engagement and Social Media (Social Networks, 2012)
- ✱ Political Communication Dataset



CNETS.INDIANA.EDU/GROUPS/NAN/TRUTHY

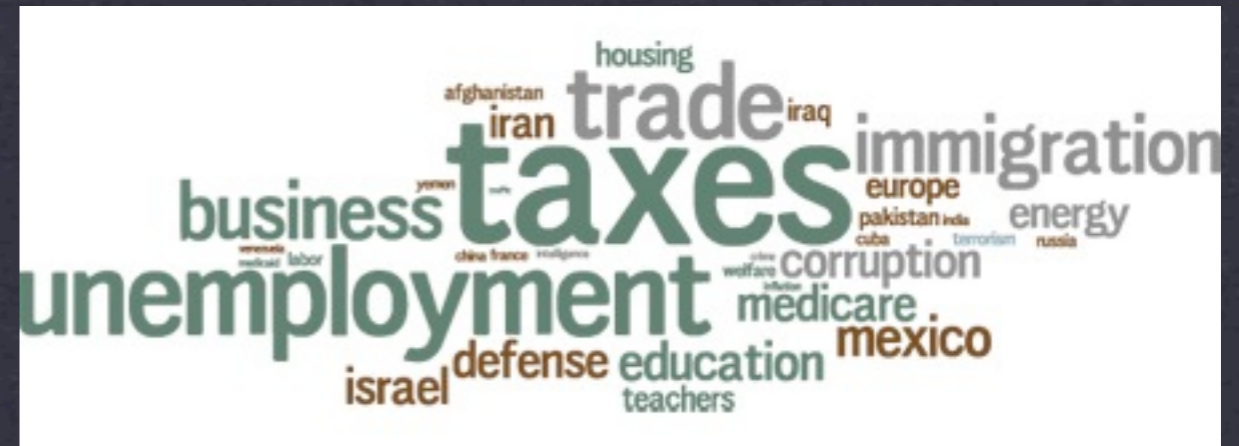
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CENTER FOR COMPLEX NETWORKS AND SYSTEMS RESEARCH
INDIANA UNIVERSITY SCHOOL OF INFORMATICS AND COMPUTING



LEFT-LEANING

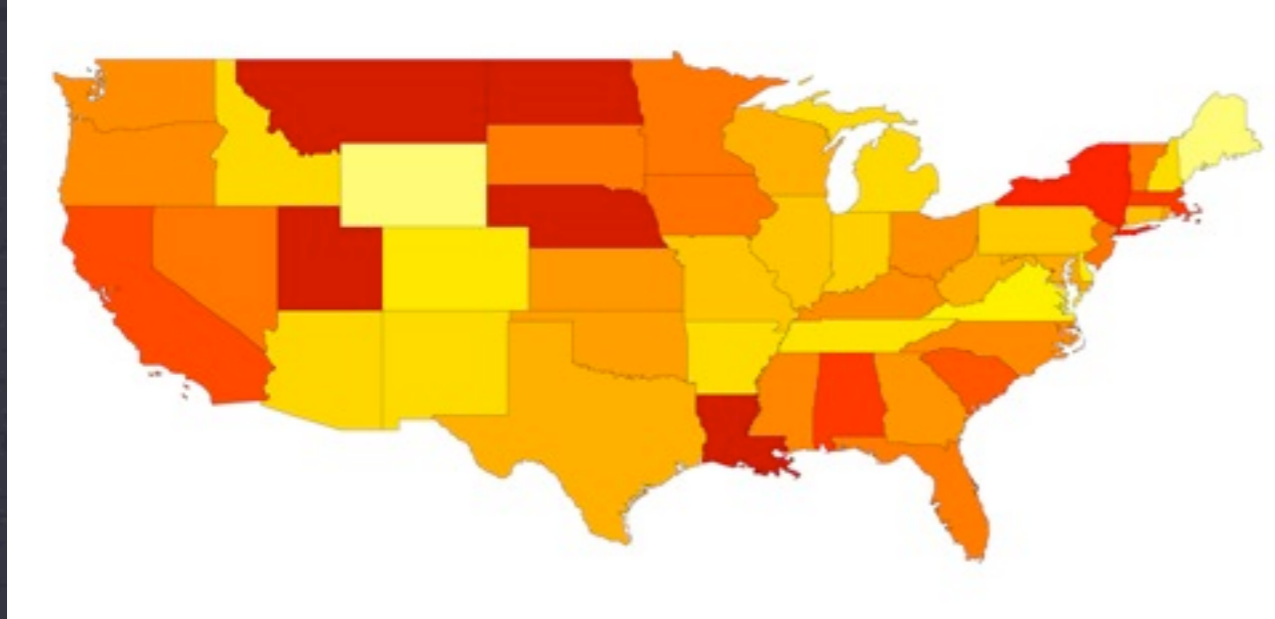


RIGHT-LEANING

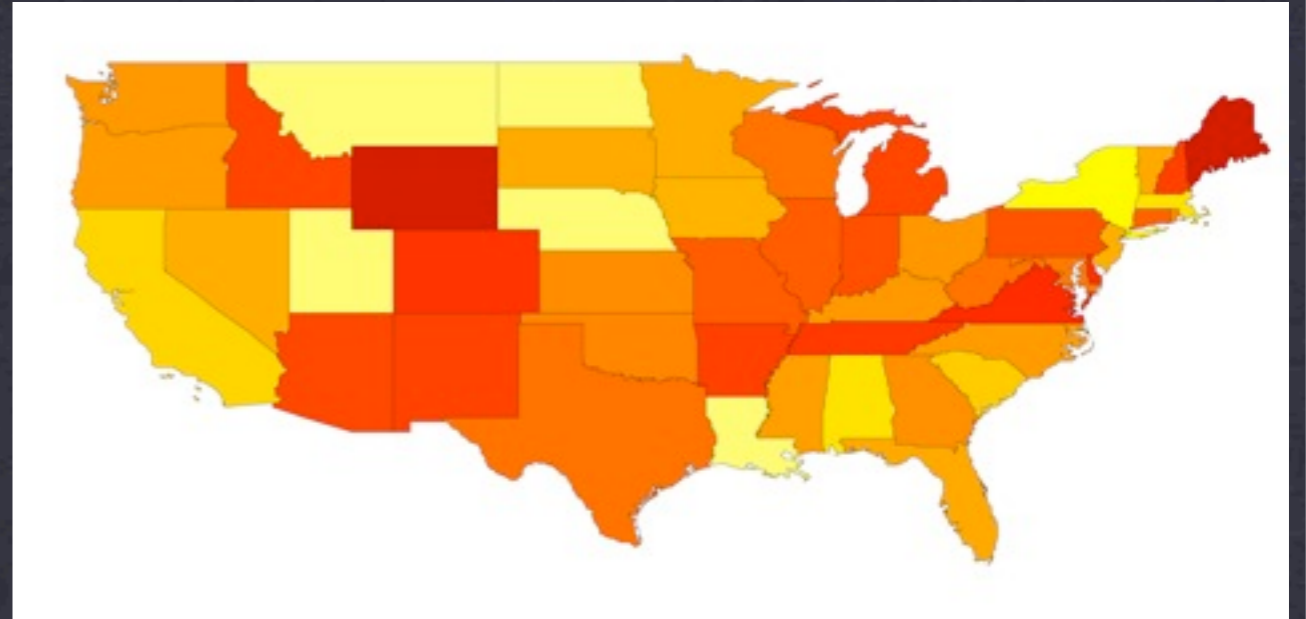
POLICY ISSUES

CONFERENCE **ICWSM 2011**

SOURCE **BROOKINGS INSTITUTION**



LEFT-LEANING



RIGHT-LEANING

POLITICAL GEOGRAPHY

CONFERENCE **ICWSM 2011**

SOURCE **LOCATION FIELD**