

## C Datasets and experimental results

### C.1 Real-world datasets

Table 2: Real-world dataset summary

Network	$ V $	$ E $	Event
Karate	34	78	Friendship
Tw:Club	703	3322	Barcelona in La-liga 2016
Tw:Sport	703	3322	Juventus vs Real Madrid 2015
Tw:US	533	13564	US Presidential Election 2016
Tw:UK	231	905	British Election 2015
Tw:Delhi	548	3638	Delhi Assembly Election 2013
Tw:GoT	947	7922	GoT promotion 2015

### C.2 Influence of the opinion vector $\mathbf{y}(0)$ and network topology $G$

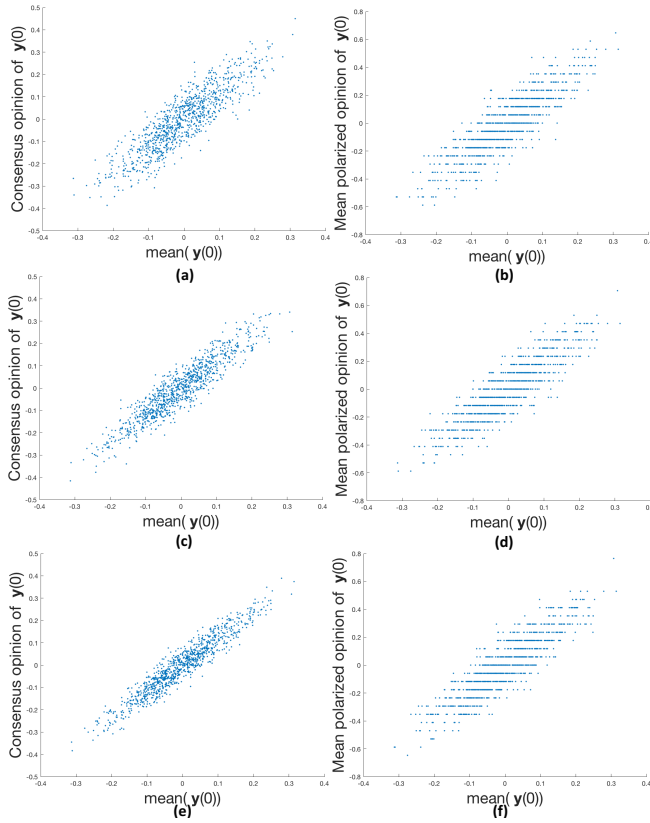


Figure 7: For 1000 random  $\mathbf{y}(0)$ . (a) and (b) on a BA model ( $n = 34, M_0 = 3, M = 2$ ); (c) and (d) on an ER model ( $n = 34, \rho = 0.139$ ); (e) and (f) on a WS model ( $n = 34, K = 2$ ). The left column of (a), (c), (e) - the consensus opinion when  $\beta = 1$ ; the right column of (b), (d), (f) - the mean polarized opinion when  $\beta = 10$ .

### C.3 Influence of model parameters

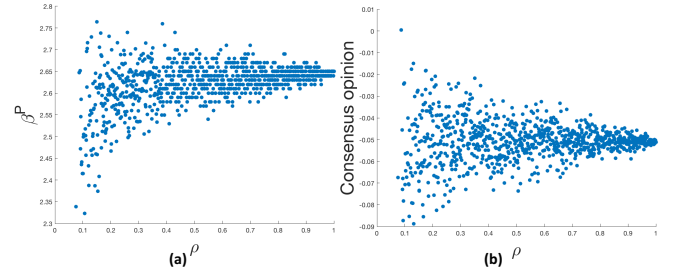


Figure 8: For an random opinion vector  $\mathbf{y}(0)$ , on ER models with  $n = 100$  and  $\rho \in (0, 1]$ . (a) the value of  $\beta^P$  for the  $\mathbf{y}(0)$ ; (b) the consensus opinion reach by  $\mathbf{y}(0)$  when  $\beta = 1$ .

### C.4 Influence of edge placements

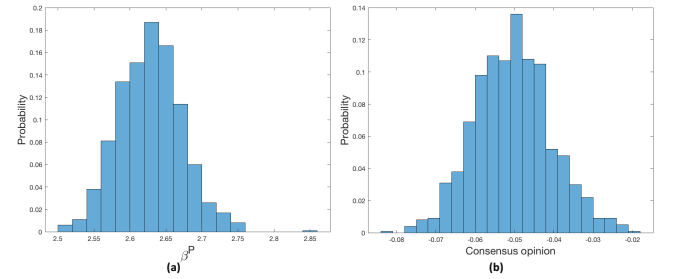


Figure 9: For an random opinion vector  $\mathbf{y}(0)$  with mean  $-0.0395$ , on 1000 ER models with  $n = 100$  and  $\rho = 0.4$ . (a) the value of  $\beta^P$  for the  $\mathbf{y}(0)$ ; (b) the consensus opinion reach by  $\mathbf{y}(0)$  when  $\beta = 1$ .

### C.5 Influence of network edge addition/deletion

#### Add One Edge - Consensus.

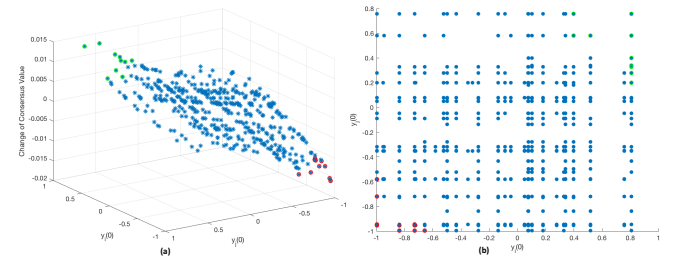


Figure 10: Add one edge on Karate network to change the consensus opinion -  $\beta = 1$ . Top 10 best choices are highlighted: green for increase and red for decrease.

### Delete One Edge - Consensus.

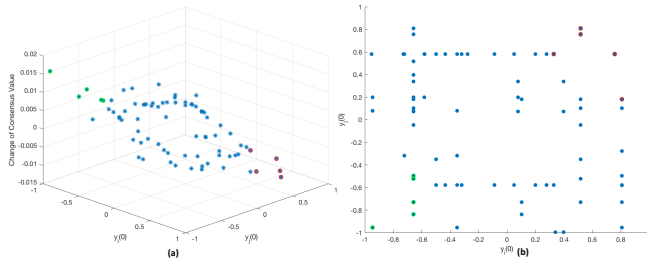


Figure 11: Delete one edge on Karate network to change the consensus opinion -  $\beta = 1$ . Top 5 best choices are highlighted: green for increase and red for decrease.

### Edge edition that has almost no influence on consensus.

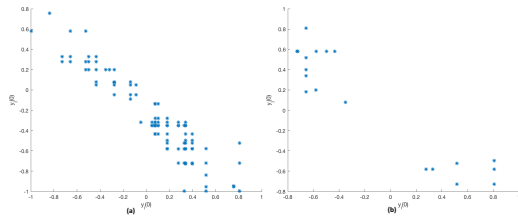


Figure 12: Additions - (a) and Deletions - (b) that cause minor change in consensus values on Karate network. ( $|\text{change}| < 10^{-3}$ )