-PVGTPCVKQPCN; QTMUJQR QP 'JCNGPIGU CPF :KUKQPU KP VJG 7QEKCN7EKGPEGU

>96-', xem %WIWUVfnnl

8JG UCWTCVKQP VJTGUJQNF QHRWDNKE QRKPKQPu

%IG CIITGUUKXG O GFKC ECO RCKIPU CNY C[U GHGEVKXG¢

Floriana Gargiulo, ISI Foundation Torino

49&0-’ 34-2-32 *361%8-32

6&%7-’ 13()0u23)<8)62%0 -2*09)2’)

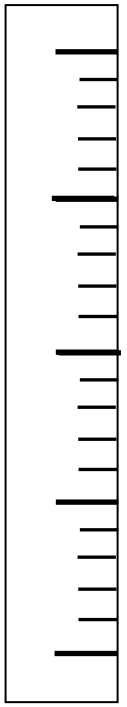
61)(-% ’%14%-+27 -2*09)2’) ’,3-’)7

49&0-' 34-2-32 *361%8-32 ; -8,3981)(-%u

-P QRKPKQP FGDCVKPIxKP EWNWTCNVIGPFUw

4GQRNGU¯RTKO CT[
HGCT KU VQ DG
FKHHGTGPVCPF
KUQNCVGF

2)986%0-8=



$o_i = 0$

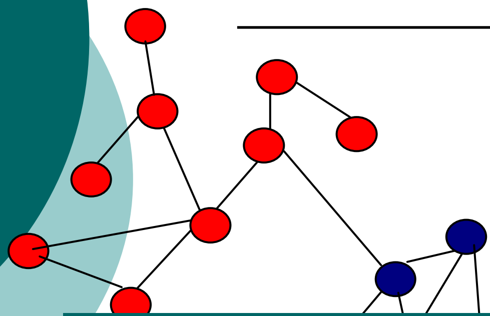
$|o_i| = 1$

6CFKECNUx
JGIGVKEUx
QWVUKFGIUw

7944368%
437-8-32

'328-29397 34-2-32 13()0 $o_i \in [-1, 1]$

’3119 2–’%8–3 2 *6%1);36/

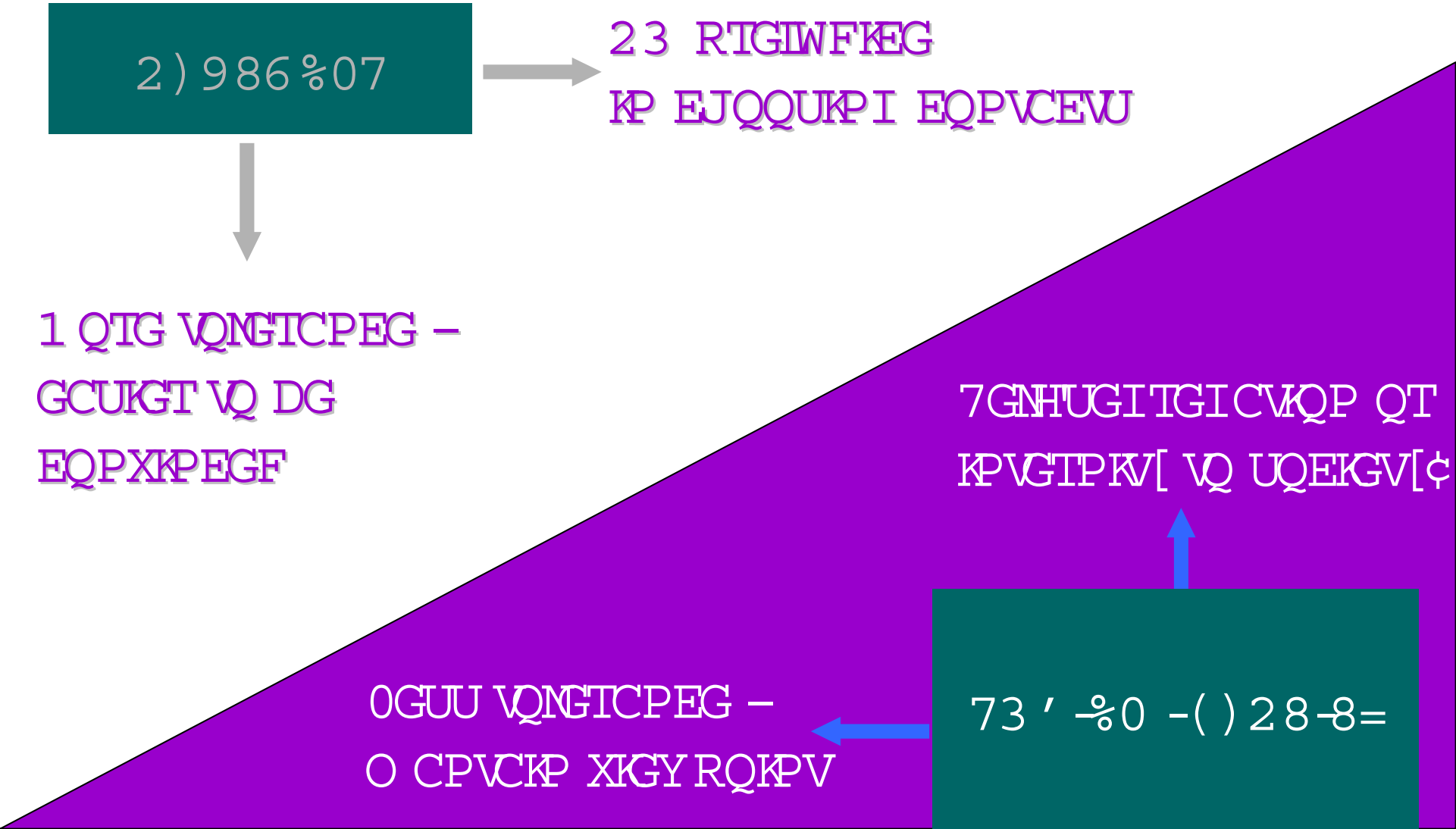


; –8,73; ’,–%0 2()3 8;4)36/0)83–4 2 8)06+%’ 8¢

()4)2(32 34–2–32~

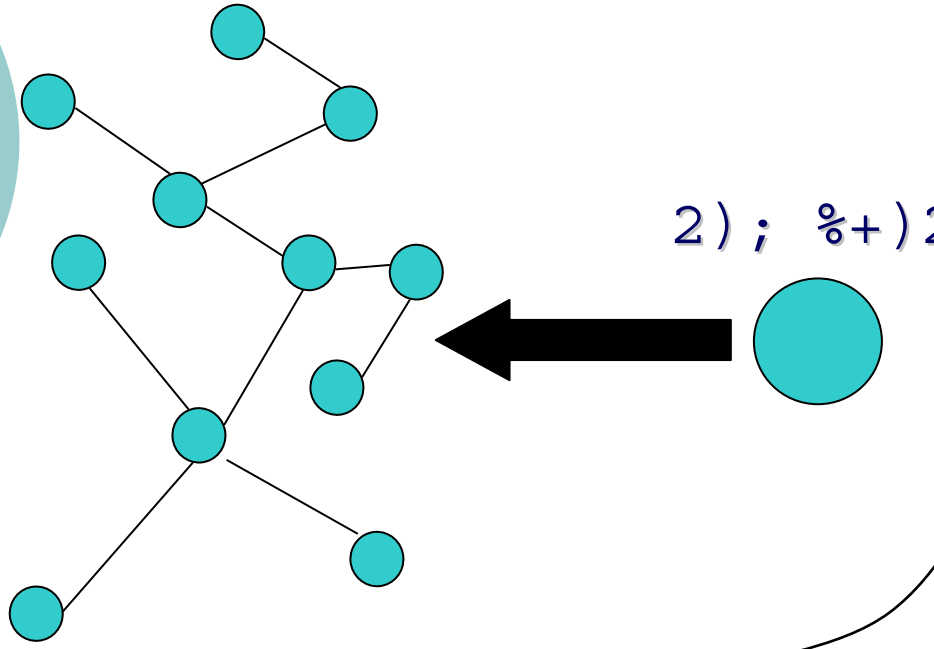
,73;’ –%(0 3 –4)*39)0)2 ’)2 8)’6%3 2 8¢

&),%:-36 ()4)2(7 32 34-2-327



2)8;36/ '327869'8-32u

6CFKECNU RTGHGTUKO KNCTU <QRKPKQP FGRGPFGPVJQO QRJKN[>



2); %+)28

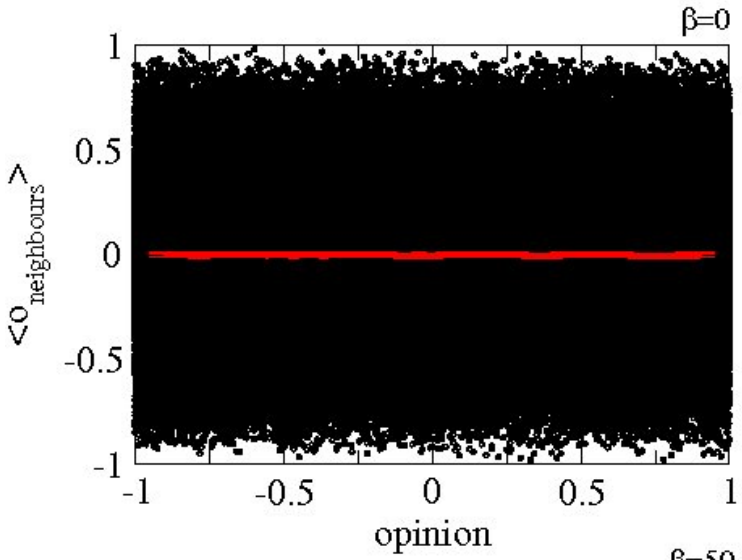
ó6%2(31 34-2-32

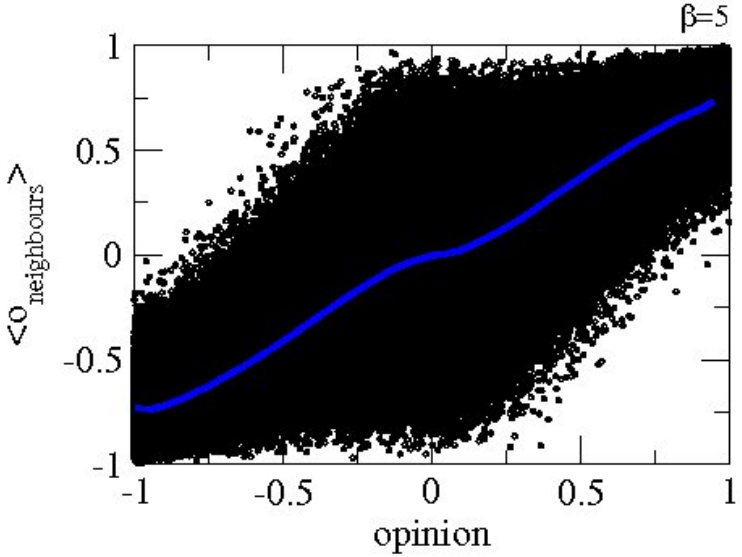
$$o_i \in [-1, 1]$$

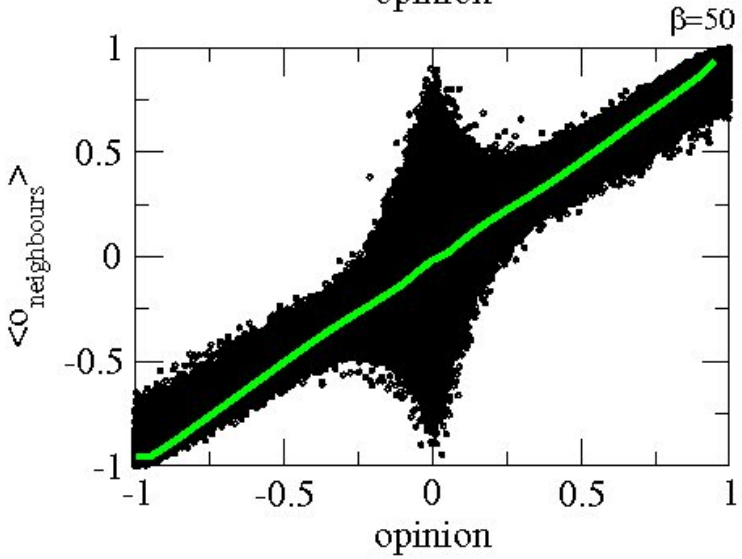
ó322)'87 83 O 23()7

$$P_{N \to i} \sim e^{-\beta |o_N (o_i - o_N)|}$$

7GITGICVKQP







73'–%0 –2*09)2') 690)7

6CFKECNU CTG NGUU VQNGTCPV CPF O QTG EQPXKPEGF

3RKPKQP FGRGPFGPV83 0)6%2')u

– $t_i(t) = 1 - \alpha|o_i(t)|$ $\alpha \in [0, 1]$

Radicals Neutral

ó PVGTCEVKQP $|o_i - o_j| < min(t_i, t_j)$

ó JCPIG QRKPKQP:

$$o_i(t+1) = o_i(t) + \frac{1}{2}t_i(t)(o_j(t) - o_i(t))$$

$$o_j(t+1) = o_j(t) + \frac{1}{2}t_j(t)(o_i(t) - o_j(t))$$

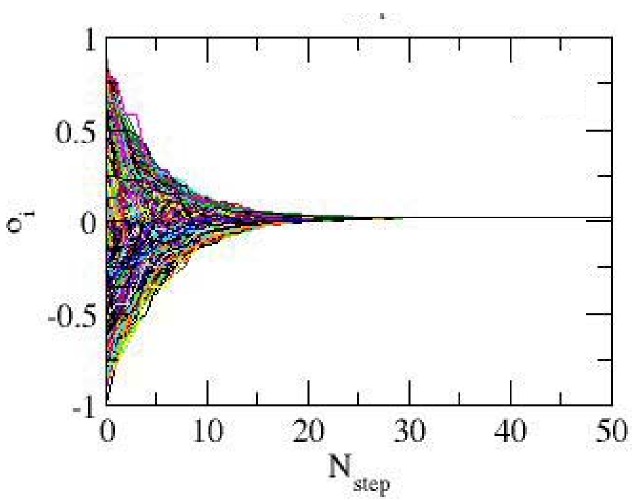
4%6%1)8)67 3* 8,) 7=78)1

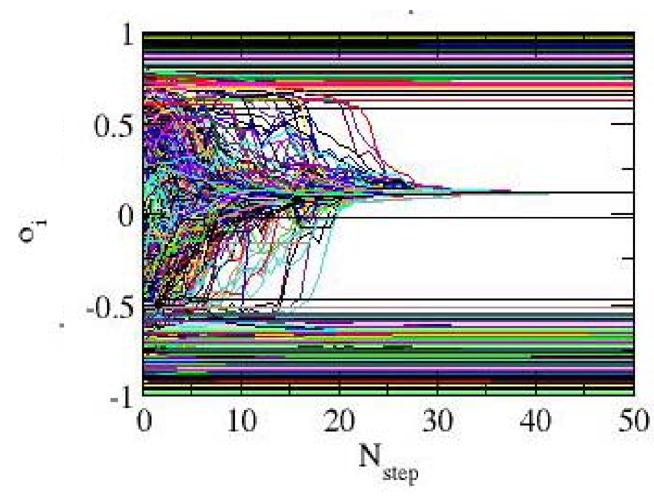
β → 2)8;36/ 7869'896)u '3286307 8,) 0):)0 3* 7)+6)+%8-32

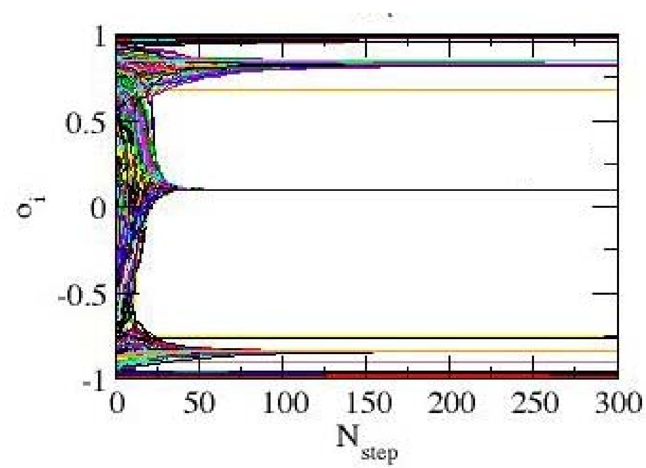
α → 73'-%0 -2*09)') 690)7u 6)46)7)28 8,) |'327-78)2'={ 3* 8,) 6%(-'%07

'32:)6+)2')
8=4)7

4,%7) 86%27-8-32







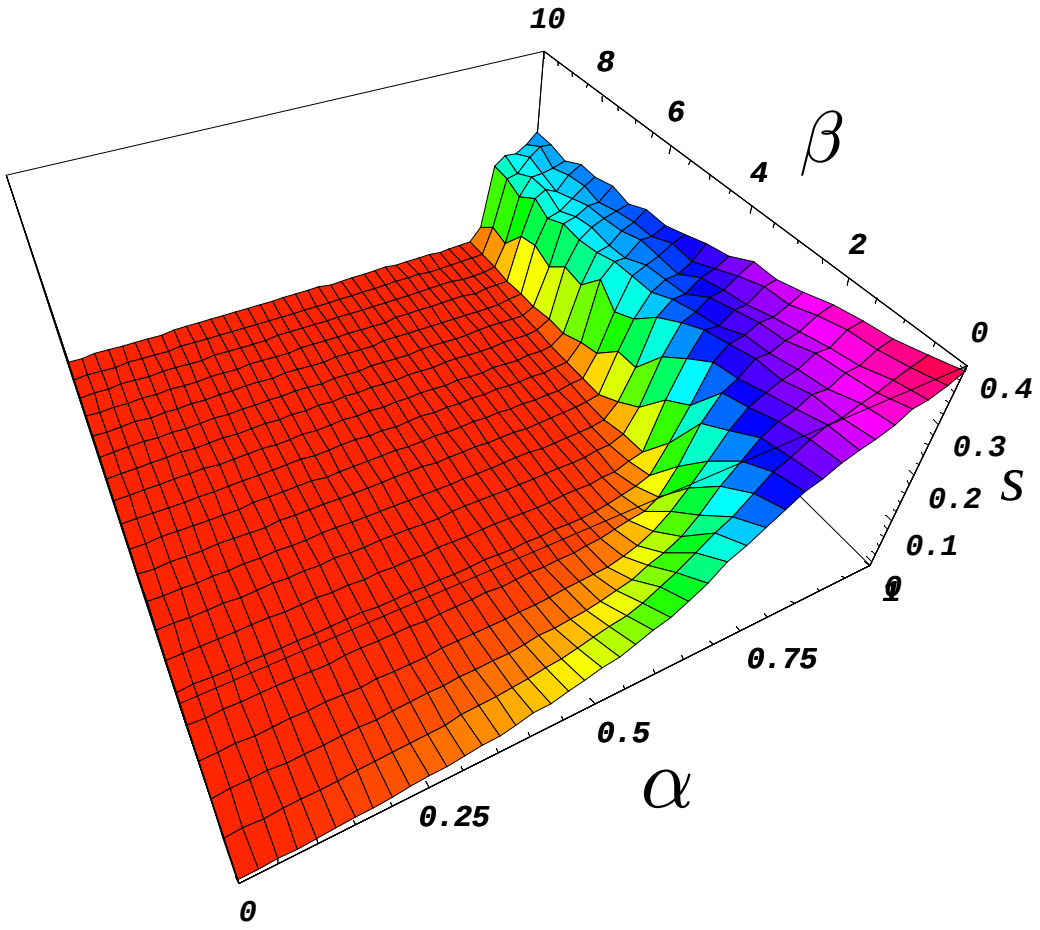
4,%7) 86%27-8-32

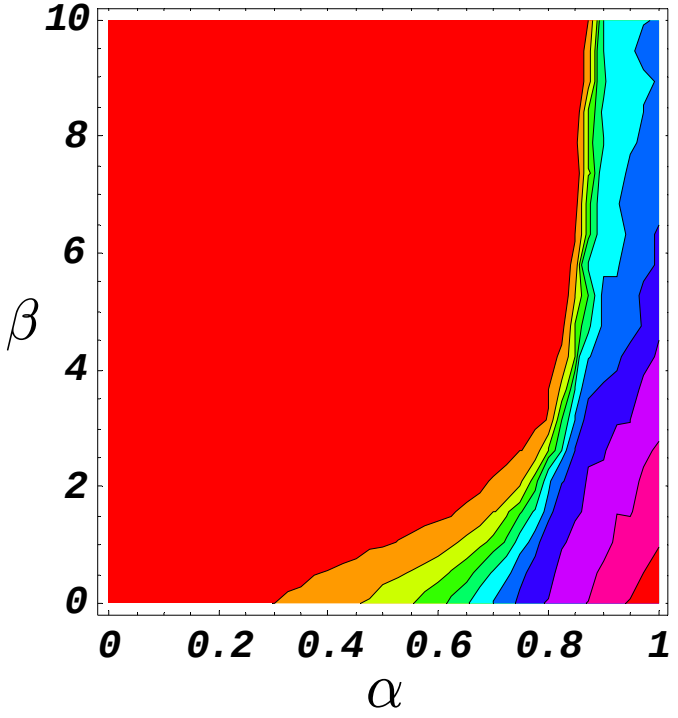
36()6 4%6%18)6

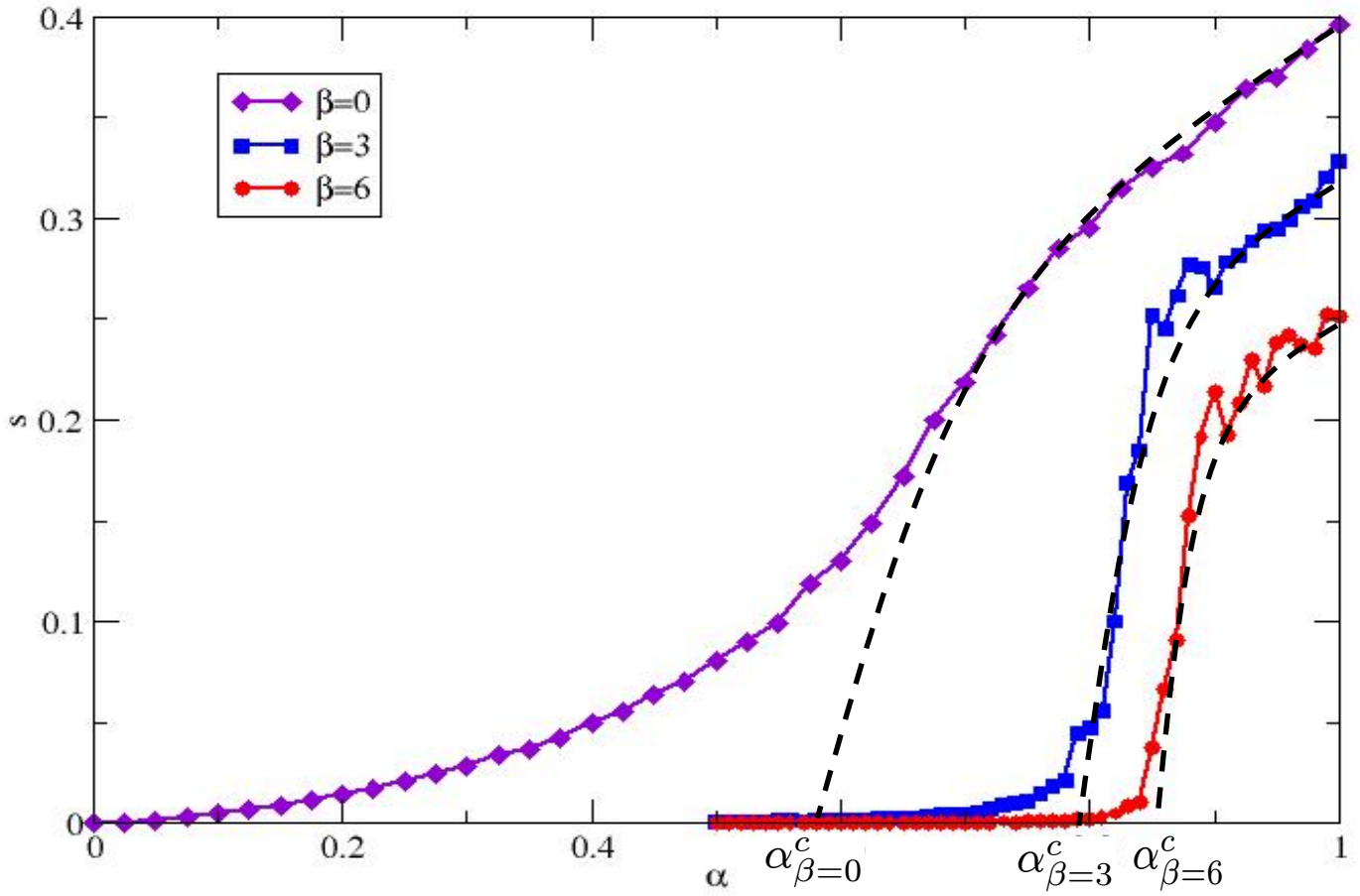
6)0%8-:)
3987-()67
7->)

$$s = 1 - \frac{g_{clust}}{N_{agents}}$$

4,%7) 86%27-8-32







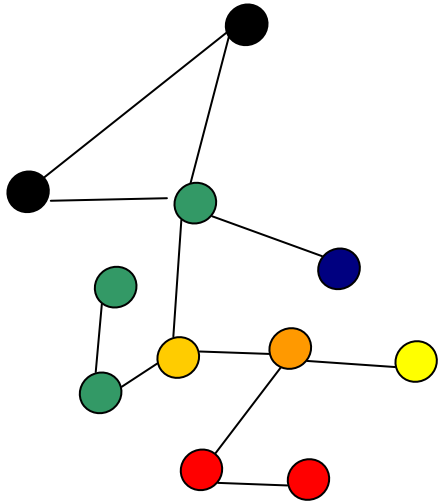
8,6)7,30(

$$\alpha^c \sim 0.57 \qquad \beta = 0$$

$$\alpha^c \sim 0.85 \qquad \beta > 5$$

49&0-' 34-2-32 *3618-32 ;-8, 1)(-%u

2)986%07



1)(-% UWRRQTV

C RQUKVQPxY KU

FKHHGTGPVRQUUKDNG

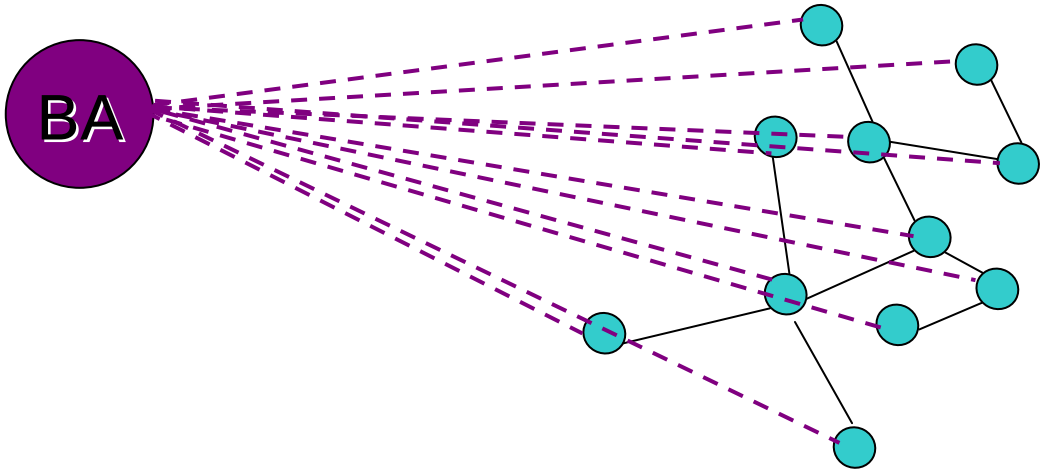
KPVPUKV[

6%(-'%07

1)(-% 34-2-32 $o_M = 1$

(-6)'8 1)(-% -2*09)2')u

8JG &-+ %+)28



-PVGTCEVU YKVU CNNVUG CIGPVU

-28)6%'8-32 ; -8, 8,) &-+ %+)28

)%', %+)28

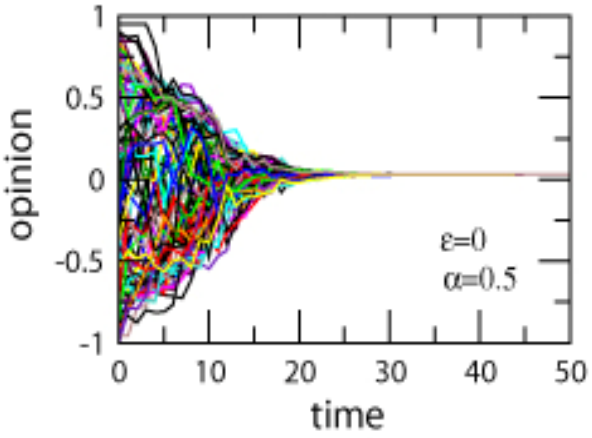
ó-PVGTCEVKH $|o_i - o_M| < t_i$

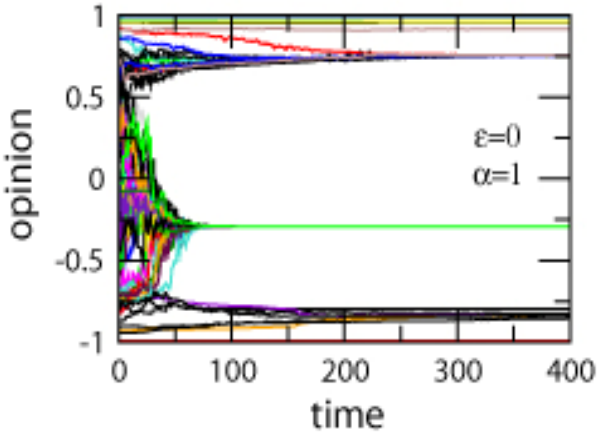
ó JCPIG QRKPKQP:

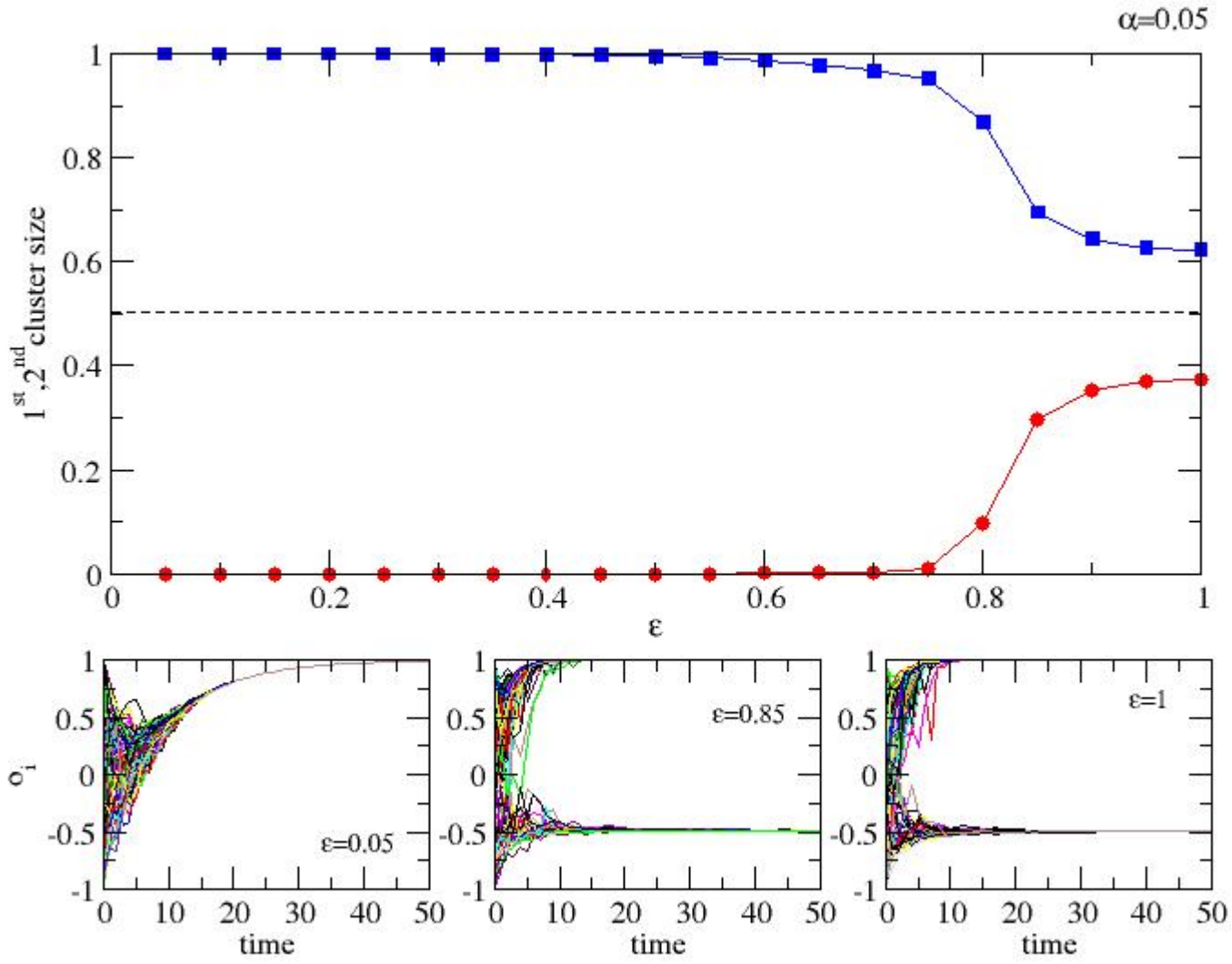
$$o_i(t+1) = o_i(t) + \tfrac{1}{2}\varepsilon t_i(t)(o_j(t) - o_i(t))$$

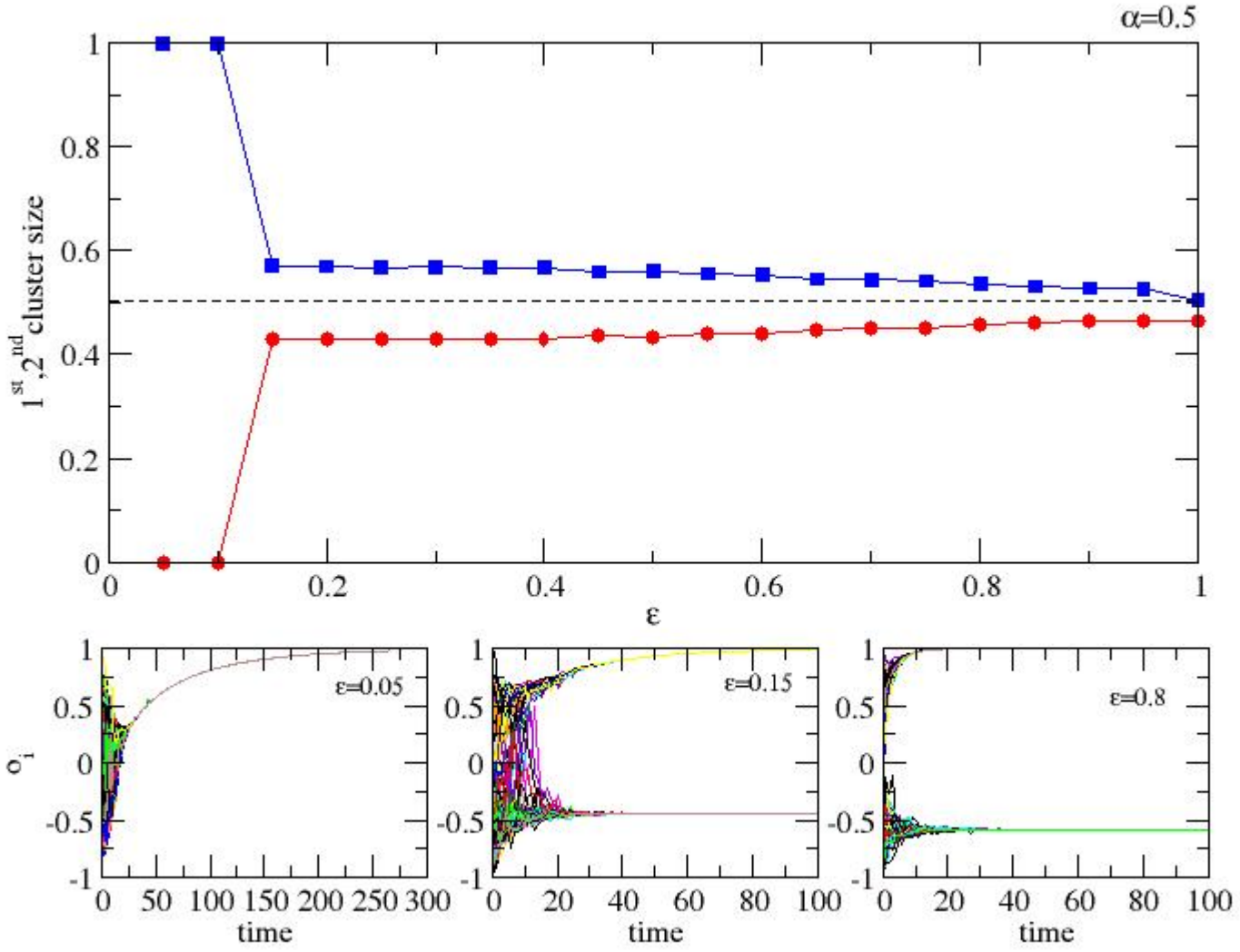
|786)2+8,{ 3*1)(-% '%14%-+2

23 1)(-%
-2*09)2')






α=0.05
1st,2nd cluster size
ε
ε=0.05
ε=0.85
ε=1
o_i
time


α=0.5
1st,2nd cluster size
ε
ε=0.05
ε=0.15
ε=0.8
o_i
time
time
time

CONCLUSIONS

BASIC MODEL

When Do radical minorities have influence?

- Maintain their viewpoint over time (α large)
- Are integrated in the society (β small)

WHICH RESULTS FROM SOCIOLOGY?

6GXGTUKPI VJG %UEJ)ZRGTIMO GPV

- Six subjects constituted the ***majority.***
- One confederate was the minority.
- Subjects were asked to view a set of slides and state their color. All slides were ***actually blue*** but varied in intensity.
- Minority consistently said that the blue slides were green.

- Control condition ***not exposed*** to the minority only said green twice—less than 1% of the responses.
- Among those exposed to minority view almost 10% of the total responses were green and 32% of the subjects reported seeing green at least once.
- Evidence for minority influence.

1 KPQTKV[-PHWGPEG

- To be influential a minority should be CONSISTENT (MOSCOVICI THEORY)
- FROM OTHER EXPERIMENTS: A minority is influential if it is not a “double minority”. INTEGRATION IN THE SOCIETY.

CONCLUSIONS

MEDIA INFLUENCE

When media campaigns are more influential?

- **LOW MEDIA PRESSURE(small ε):**

  SATURATION EFFECT QHVQQ CIITGUUKXG ECO RCKIPU

- **NON CONSISTENT RADICAL BEHAVIOUR (small α)**

6)*)6)2')7

/'%2)<86)1 -71 +9%6%28)) 4096%0-71 ¢{

<%T<KXunlngtglkmx8Q CRRCTG QP .%777>

*t+tx%t1 C\\QPK

/'32:)6+)2') 7')2%6-327 KP CP 34-2-32 ()4)2()28 '311 92-'%8-32 *6%1);36/ {

<-P RTGRCTCVQP>

*t+tx7t0QWKPKx.t.t6CO CUEQ

/8,) 7%896%8-32 8,6)7,30(3*49&0-' 34-2-32 uCTG CIITGUUKXG O GFKC ECO RCKIPU CNY C[U GHHGEVXG¢{

<%T<KXunlngtgmgkx8Q CRRCTG QP VUG RTQEGGFKPIUQH)77%fnnl 'QPHGTGPEG>

*t+tx7t0QWKPKx%t1 C\\QPK