Predicting Criticality and Dynamic Range in Complex Networks: Effects of Topology

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N[illegible] [1,2] [illegible] [3] [illegible] [4] [illegible] dynamic range [illegible] [5] [illegible] [2]. [illegible] [2,4] [illegible] [6,7]. [illegible]

[illegible] [2], [illegible] m [illegible] x_i. [illegible] $x_i = 0$ [illegible] $x_i = 1$ [illegible] $x_i = 2, 3, \ldots, m+1$ [illegible] $t = 0, 1, \ldots$ [illegible] $x_i^t = 0$, [illegible] $x_j^t = 1$, [illegible] A_{ij} [illegible] $A = \{A_{ij}\}$. [illegible] $x_i^t \geq 1$, [illegible]

[illegible] ($x_i^{t+1} = x_i^t + 1$ [illegible] $1 \leq x_i^t < m - 1$, [illegible] $x_i^{t+1} = 0$ [illegible] $x_i^t = m - 1$).

A[illegible] [2[illegible]

e r e , . . e F a ie . a, aye b a . r. I
, ar, ar, $\lim_{\square \to 0} F = 0$. $\square < 1$ a $\lim_{\square \to 0} F > 0$.
$\square > 1$. I a . . . , e . a ra ie . e e r
a . . b a e a $\square = 1$ Te ara e e r $\square$
. e e . Re . [2,4] a a e rae bra ra ,
e e e a $\square = \frac{1}{N} \sum_{i;j} A_{ij} = \langle$

e r- a e e $\in [2.0; 6.0]$, a

e e ee re a ; (ae r 5) e r -

e $\langle d \rangle = 1$, a a r a e e

v ar $[0.7; 1.3]$; (ae r 6) e r e

e e e e e e r e

e e ae , $A_{ij} = \square/d^{out}$.

We ae e r e e : r , e ae

b ar e r $(A_{ij} \in \{0; 1\})$ ar e e ee r b-

a e r be be ; e , e a a e

e a , ra r a r b be ee

0 a ; a , e a ae

[illegible] Re . [2,7] a [illegible]

[illegible] [7]. T [illegible]

[illegible] $\in [2.0, 6.0]$, [illegible] $= 1$ [illegible]

[illegible] E . (9) [illegible]

[illegible] F . 3.

[illegible] $= 1$. T [illegible]

[illegible] M [illegible]

[illegible] [19] [illegible]

[illegible] [4 [illegible]

[illegible] (1) [illegible] ≈ 1, [illegible] (2) [illegible]

We [illegible] E O [illegible] De [illegible] Pe [illegible]