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

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

A[illegible] K[illegible]-C[illegible] [2], [illegible] N [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 [illegible] $x_i^t = 0$ [illegible] $x_j^t = 1$ [illegible] A_{ij} [illegible] $A = \{A_{ij}\}$ [illegible] $x_i = 1$ [illegible]

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

A[illegible] [illegible] F. F[illegible] [2[illegible] e . . es . . e F a es s s a a e b a . . I

a a , $\lim_{\square \to 0} F$ 0 . $\square < 1$ a $\lim_{\square \to 0} F > 0$.

$\square > 1$. I a . . , e . a a e e e .

as . b a e a $\square$ 1 Te a a e e $\square$

s e e . Re s. [2,4] as a a e a e b a a . ,

e e e as $\square$ $\frac{1}{N}\sum_{i;j} A_{ij}$ $\langle$

[illegible] e [illegible] -a e [illegible] e [illegible] s $\in$ 2:0; 6:0 , [illegible] a [illegible]
[illegible] e [illegible] ee [illegible] e a [illegible] s; ([illegible] 5) e [illegible] s [illegible] -
s [illegible] e [illegible] ⟨d [illegible] 1, a [illegible] ass a [illegible] e [illegible] e [illegible]
a [illegible] 0:7; 1:3 ; ([illegible] 6) e [illegible] s [illegible] e [illegible] s
[illegible] e e [illegible] e e ee [illegible] e [illegible] e [illegible] e
e e [illegible] a [illegible] s, A_{ij} [illegible] =d^{out}.

W[illegible] e a [illegible] e [illegible] s [illegible] e se s: [illegible] s, e e a [illegible]
b [illegible] a [illegible] e [illegible] s ($A_{ij} \in \{0; 1\}$) [illegible] a e e ee [illegible] s b -
[illegible] s a s e s [illegible] b b [illegible] ; e [illegible] e a ss [illegible] e a e [illegible]
e a [illegible] , a [illegible] a [illegible] s b [illegible] b ee
0 a [illegible] ; [illegible] a [illegible] , e a [illegible] a [illegible]

[illegible] b [illegible] [2,7] [illegible] [7]. T[illegible] $\in$ 2.0 6.0 [illegible] 1 [illegible] E[illegible] (9) [illegible] F[illegible] 3.

[illegible] 1. T[illegible] M[illegible] P[illegible] [19] [illegible] Ta[illegible] [4[illegible]

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

W[illegible] E[illegible] O[illegible] D[illegible] P[illegible]