EFFECT OF ACTIVATION PROBABILITY

In Fig. 1 we explore the effects of the activation probability distribution $\zeta(r)$ in the definition of the attractiveness model. We compare the uniform distribution used in the paper,

$$\zeta(r) = 1, \quad r \in [0, 1]$$

with a constant distribution,

$$\zeta(r) = \delta_{r,r_0},$$

where $\delta_{r,r'}$ is the Kronecker symbol. Here we chose $r_0 = 0.5$. We can observe that results of the model are quantitatively independent of the choice of the activation distribution.

FIG. 1: Effects of the activation probability distribution $\zeta(r)$ in the outcome of the attractiveness model with respect to the distribution of the contact duration, $P(\Delta t)$ (up, left); the distribution of the time interval between consecutive contacts, $P(\tau)$ (down, left); the weight distribution of the aggregated network, (up, right); and the correlation between strength and degree in the aggregated network, $s(k)$ (down, right).

EFFECT OF THE MOTION RULE

In Fig. 2 we explore the effects of the motion rule in the biased random walk defining our model, comparing the maximal rule adopted in the paper

$$p_i(t) = 1 - \max_{j \in N_i(t)} \{a_j\},$$

with an average rule

$$p_i(t) = 1 - \sum_{j \in N_i(t)} a_j / k_i(t),$$

where $N_i(t)$ is the set of neighbors of agent $i$ at time $t$, and $k_i(t)$ the number of connections of agent $i$ at time $t$. We can observe that results of the model are quantitatively independent of the motion rule adopted.

FIG. 2: Effects of the motion rule in the outcome of the attractiveness. Magnitudes plotted are the same as in Fig. 1.