# Noised Diffusion Dynamics with Individual Biased Opinion

**Fuhan Yan**[1] and **Zhaofeng Li**[1] and **Yichuan Jiang**[1*]

**Abstract.** In online social network, the personal information dissemination behavior is reported to be affected by the clash of social individuals biased opinions. In this paper, we present a model to discuss the influence of individual biased opinion on diffusion dynamics. B

and            ) according to $a_3$ s modified opinion (            ).
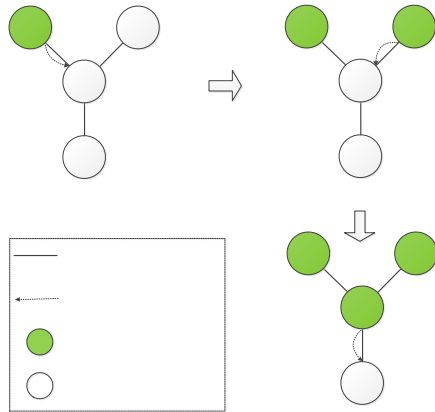Here,      .

Figure 1. A simple case of diffusion process.

## 3    SIMULATIONS AND CONCLUSIONS

The simulations are based on a random network [9] with 10000 agents. Besides, the average degree      10. The basic probability    is set as 0.1 and the adjustment factor    of probability is 1. Each trial is performed with 1000 replications. Meanwhile, only one agent is randomly chosen to be the initial infected agent every round. Because the noise is generated by initial opinions $S_0$ and the assimilation of noise is adjusted by bias weight    , the influences of $S_0$ with different distributions and    are analyzed principally.

It is assumed that all the agents have same    which is varied from 0 to 1. Besides, $S_0$ obeys four distributions [10] [11] which denote four typical states of social opinions. Here, $x$    [0, 1]:

(i)  Uniform distribution:        = 1.

(ii) Normal distribution:

(iii) Anti-normal distribution:                              .
    á                                S

(iv)