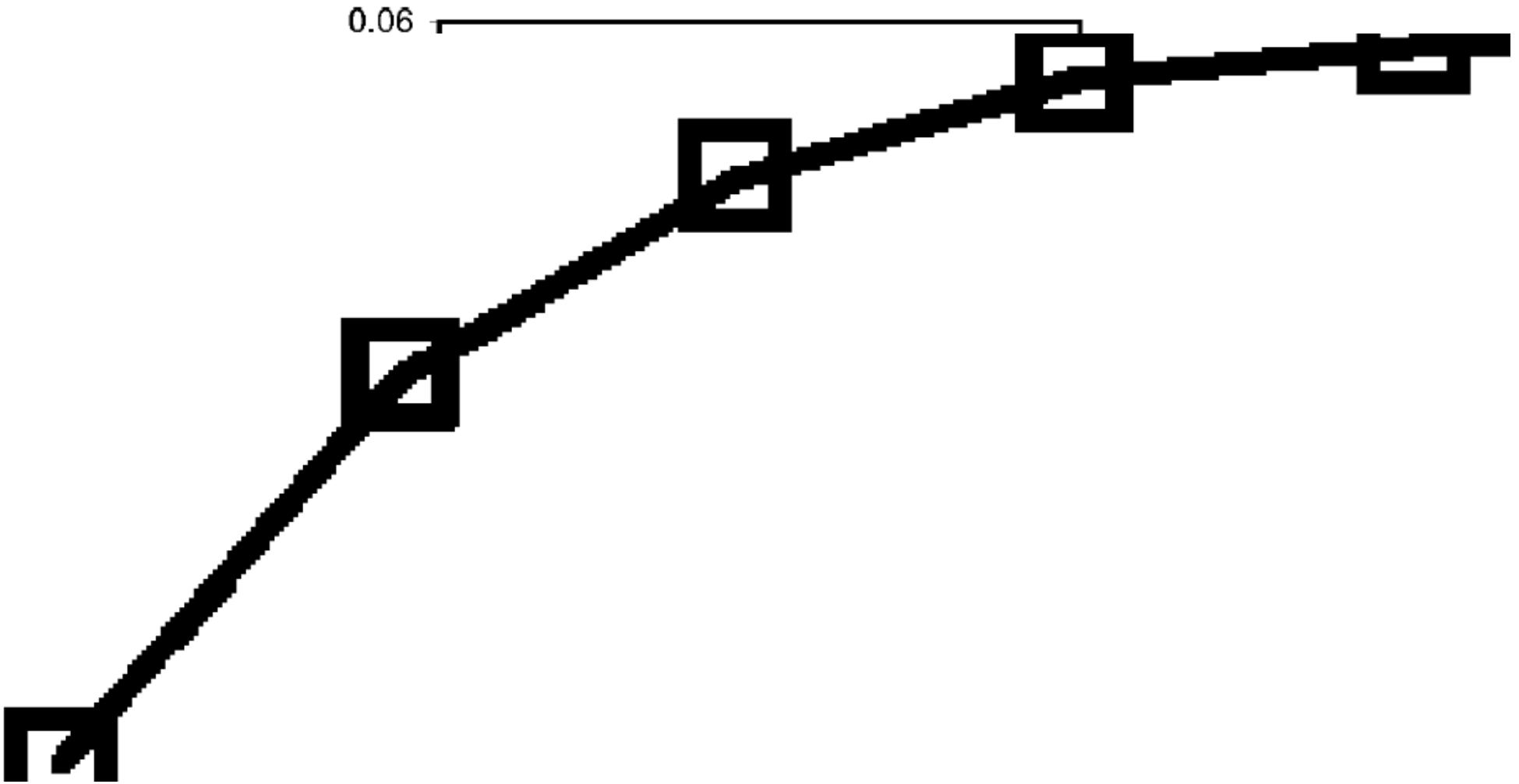
Monte Carlo Step

```
Kette[N] = beta
M = AnzahlRibos
M+1 mal durchlaufen:
    {
    i = RndInt(0...M)
    if (i < M)
        {
        if (rnd() < Kette[Position_von_Ribo_i])
            Weiterruecken(Ribo_i)
        }
    else if (rnd() < alpha)
        Ribo auf die Kette schicken
    }
```

Phasenübergang 2. Ordnung: HD -> MC

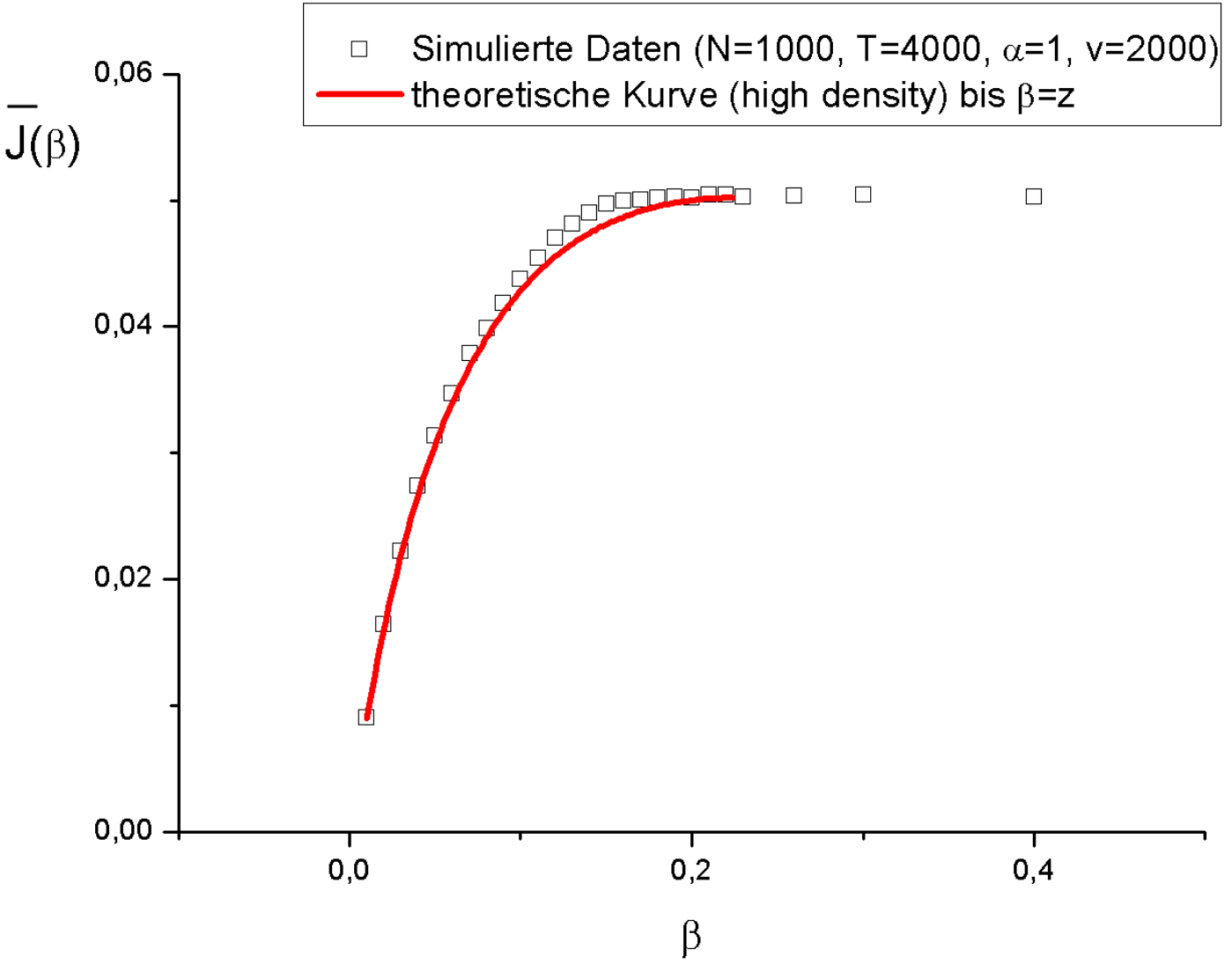
PHYSICAL REVIEW E **68**, 021910 (2003)



J: Anzahl der Translationen pro Zeitschritt. Normiert auf N (Kettenlänge).

$$HD: J(\beta) = \frac{\beta * (1-\beta)}{1+\beta(l-1)} \quad \text{für } \beta < z = \frac{1}{1+\sqrt{(l)}} \approx 0.224$$

Phasenübergang 2. Ordnung: HD -> MC



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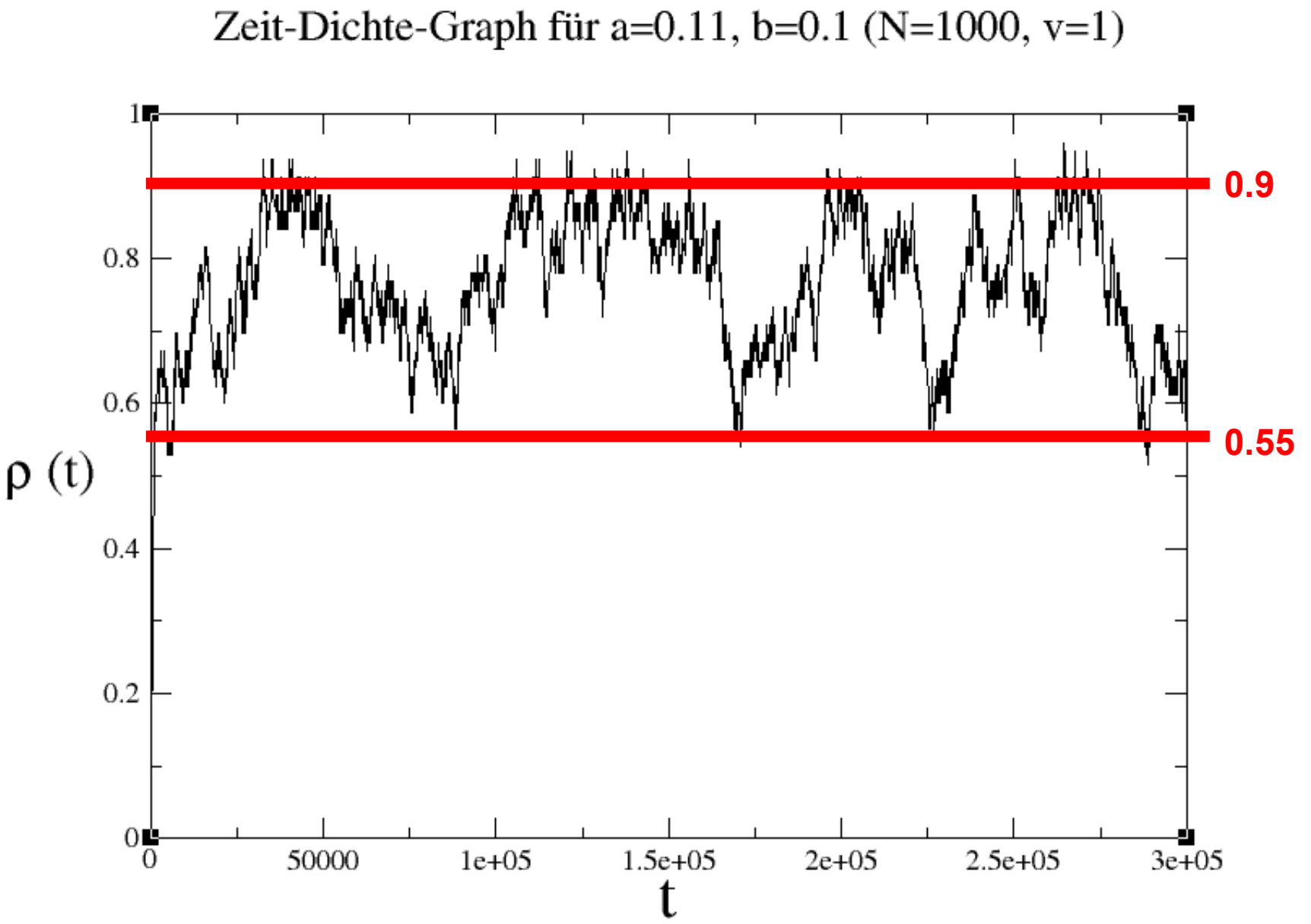
Phasenübergang 1. Ordnung: LD -> HD



Phasenübergang 1. Ordnung: LD -> HD

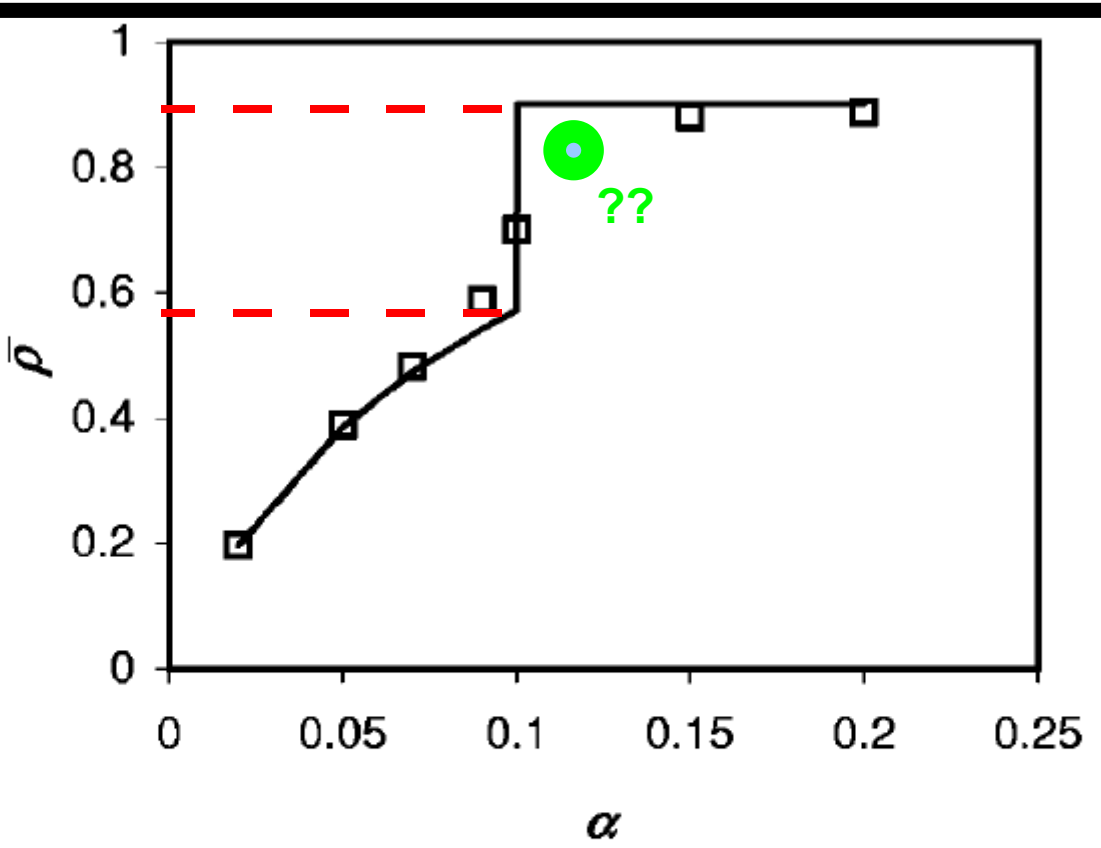
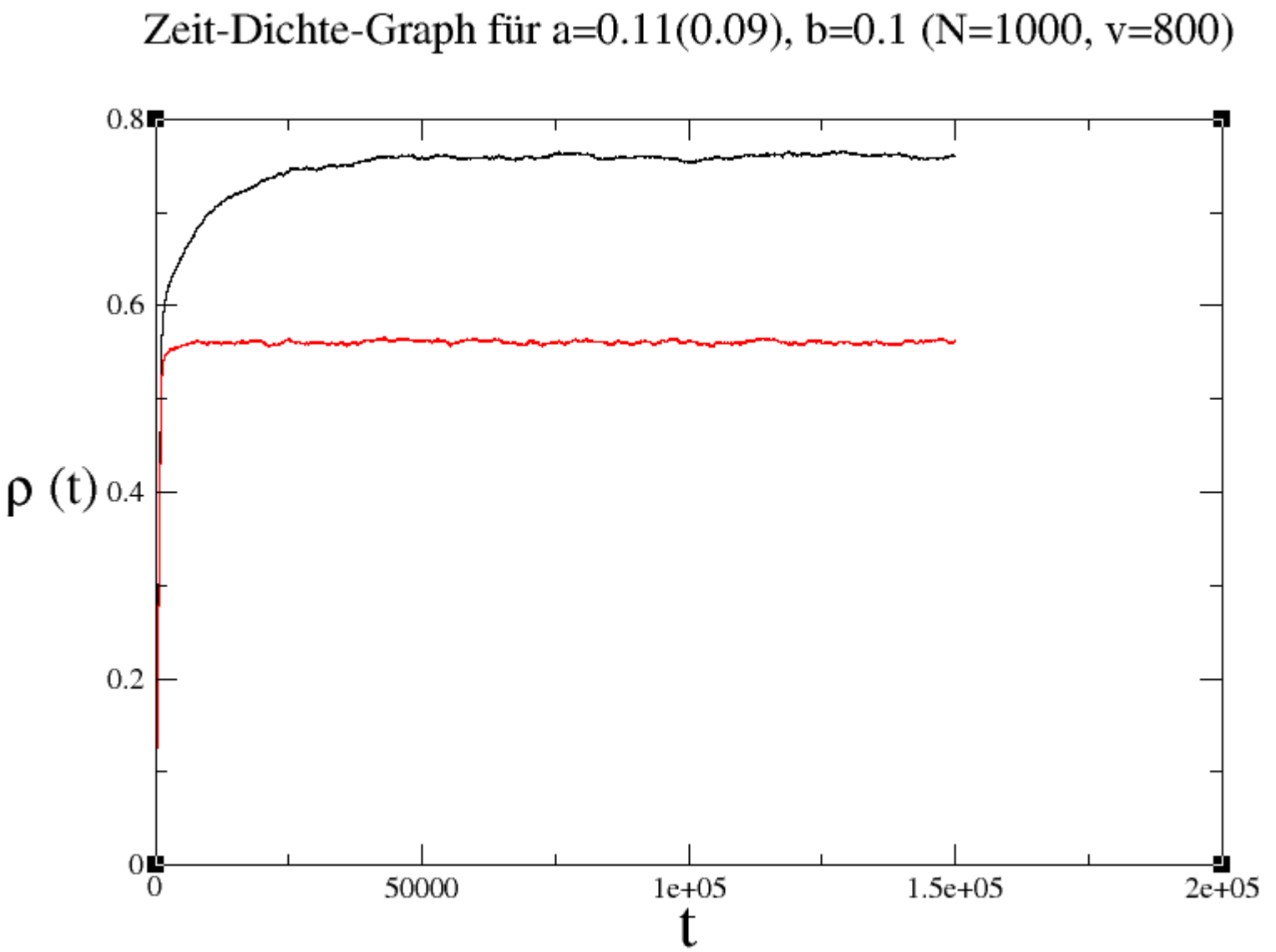


FIG. 7. Dependence of average coverage density $\overline{\rho}$ on α for $\beta = 0.1$, $\ell = 12$, and $N = 1000$. Symbols are simulation results (determined from 100 systems simulated in parallel and sampled every 100 MCS for 1.2×10^4 MCS after steady state was reached) and curve is the prediction from $\rho_-(\alpha)$ and $\rho_+(\beta)$ in Eq. (17).

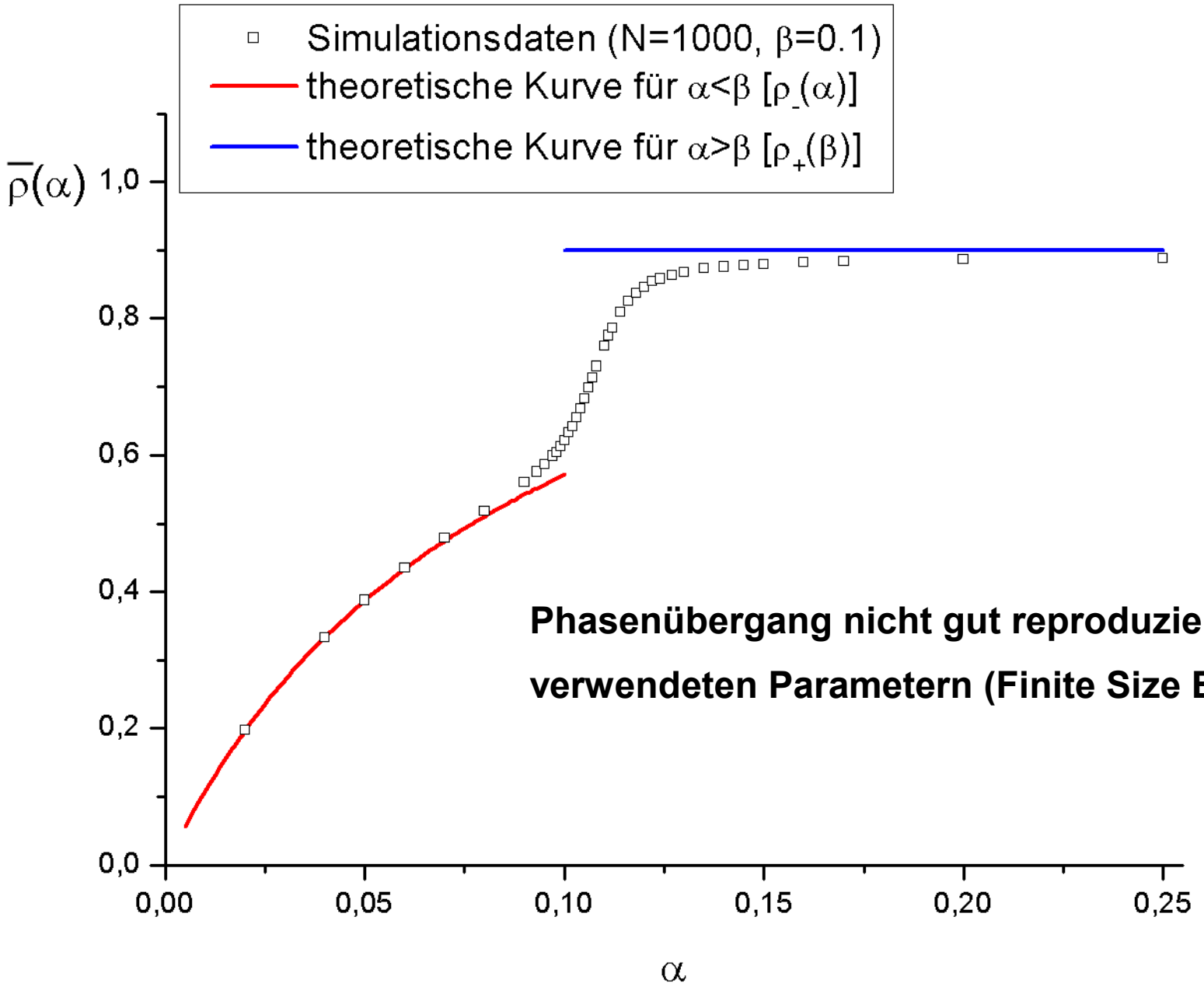
$$LD:\ roh(\alpha) = \frac{l \cdot \alpha}{1 + \alpha(l-1)} \quad für\ \alpha < \beta = 0.1 \qquad HD:\ roh(\alpha) = const. = 1 - \beta \quad für\ \alpha > \beta$$

Phasenübergang 1. Ordnung: LD -> HD

Steady State ab wann?



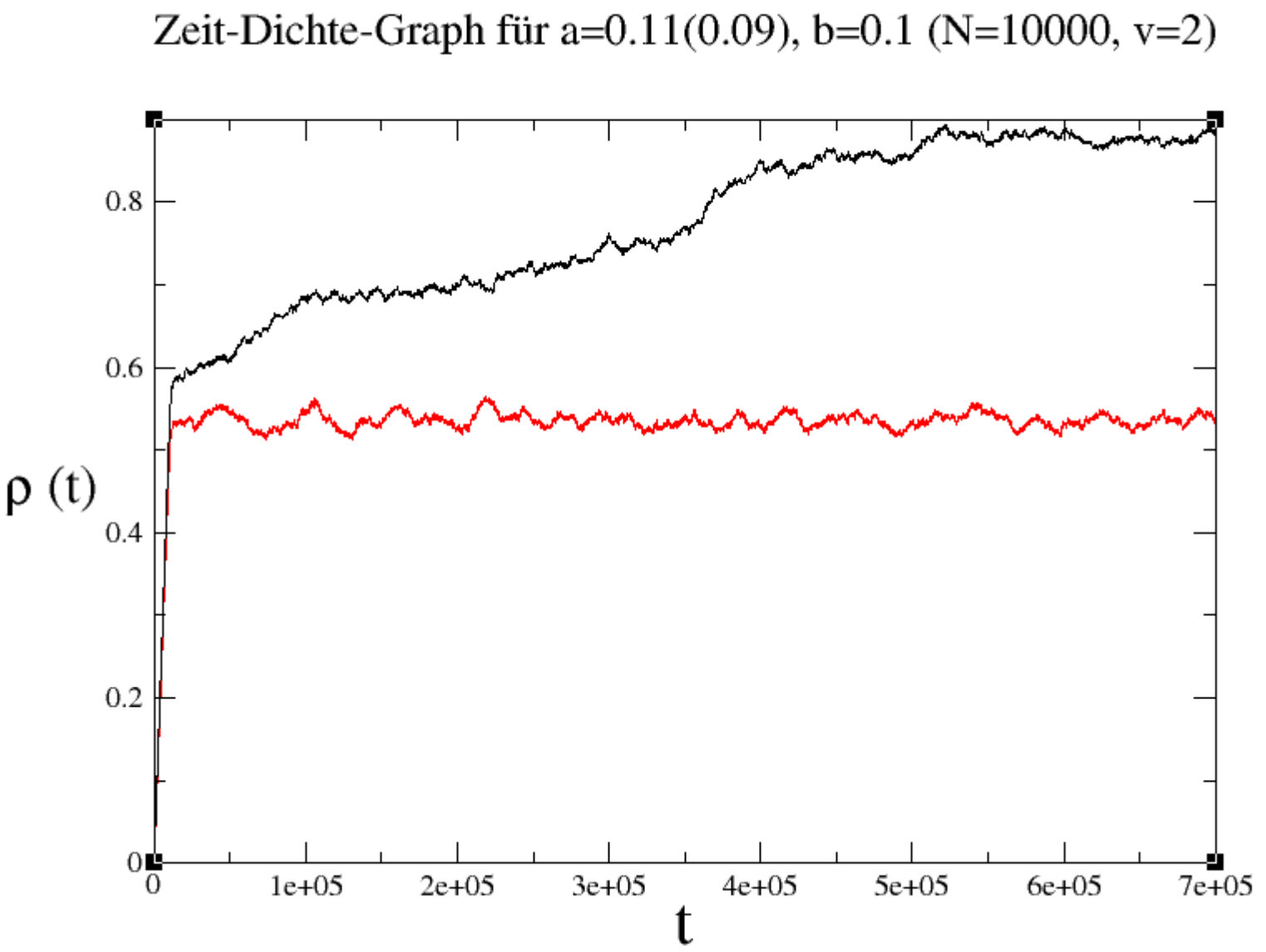
Phasenübergang 1. Ordnung: LD -> HD



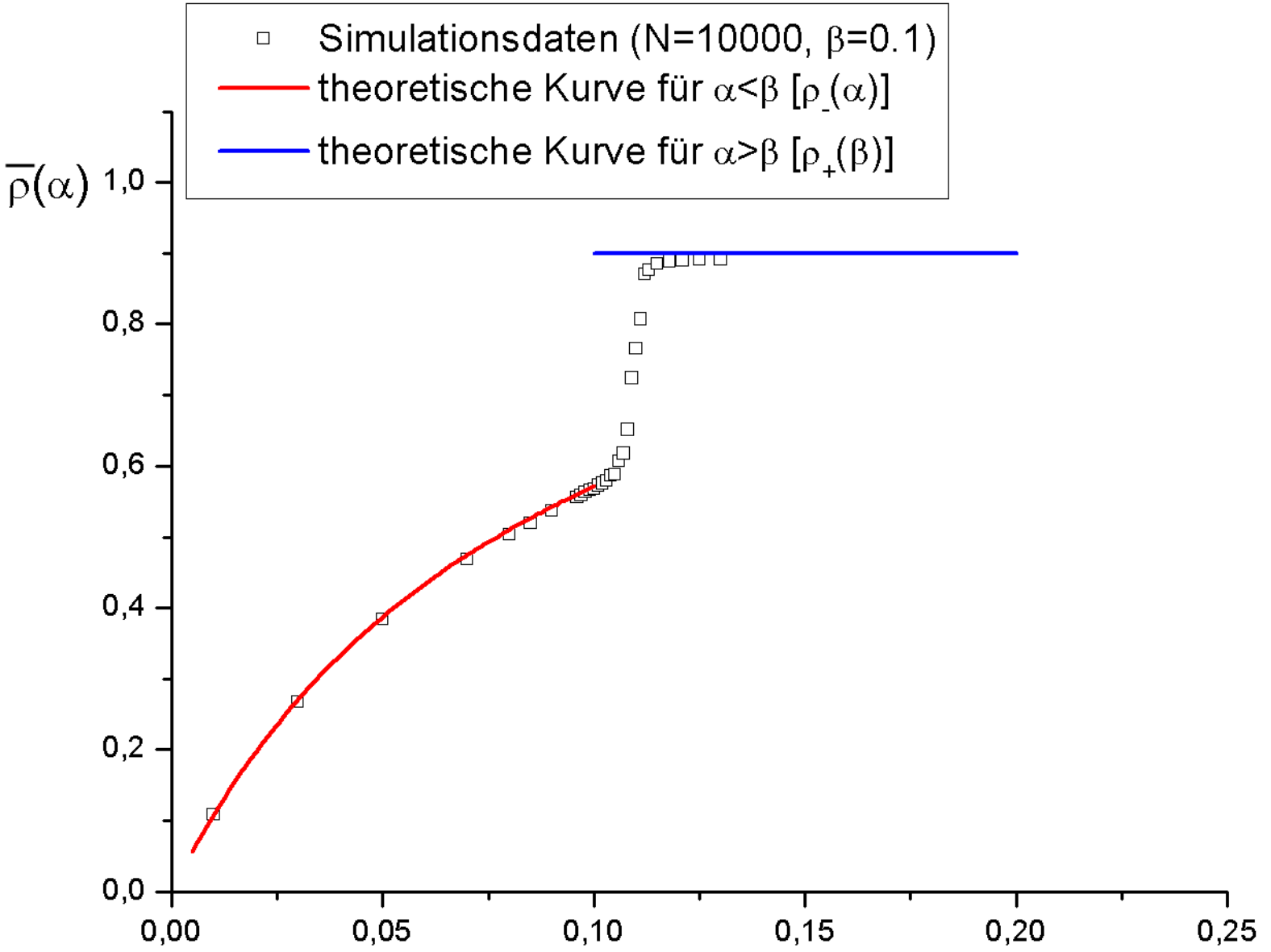
Phasenübergang nicht gut reproduzierbar bei verwendeten Parametern (Finite Size Effect!)

Phasenübergang 1. Ordnung: LD -> HD

Steady State ab wann?



Phasenübergang 1. Ordnung: LD -> HD



$$LD:\ roh(\alpha) = \frac{l \cdot \alpha}{1+\alpha(l-1)} \quad für\ \alpha < \beta = 0.1 \qquad HD:\ roh(\alpha) = const. = 1-\beta \quad für\ \alpha > \beta$$