

제 13차 통계물리 Workshop

2005년 8월 8일(월)~10일(수)

경기대 호연관 세미나실

주최 : 한국물리학회 통계물리분과

후원 : 경기대, APCTP

2. 세부 발표 일정표

8월 8일 (월)

13:10 - 14:22

좌장 박형규

G1	날알 가뭇기에서 에너지 누설의 보편성	*홍종배, 방종현
G2	Prey-Flock Deformation in Escaping from a predator's Attack	J. H. Park, S. H. Lee, T. S. Chon and *H. K Pak
G3	Stochastic Cellular Automata Modeling on Biofilm Growth in Allelopathy	S. H. Lee, H. K. Choi, J. H. Park, H. K. Pak, *T. S. Chon
G4	Particle Size Measurement by using the Light scattering and Dielectric Spectroscopy Method	Jeong-Ah Seo, Hyun-Joung Kwon, Hyung Kook Kim, Yooh-Hwae Hwang
G5	Study of Brazil Nut Problem and Reverse Brazil Nut Problem	Yongsoo Seo, Chaeyeon Song, H. K. Pak
G6	Bifurcations of the Galerkin-Truncated Complex Ginzburg-Landau Equation	Seung Ki Baek and Hie-tae Moon

14:40 - 15:52

좌장 이상훈

G7	Rotation of Irregularly shaped Multi-Lamellar Vesicles using Optical Tweezer	Chung-il Ha, Haeng Sub Wi, Hyuk Kyu Pak
G8	Statistical properties of the returns of stock prices of International Markets	미상
G9	Waiting Time Distribution of Stock-market Index	*Jae Woo Lee, kyoung Eun Lee, Per Arne Rikvold
G10	Eigenvalue-Matching Renormalization-Group Analysis of Tricritical Behavior in Unidirectionally Coupled Maps	*Woochang Lim, Sang-Yoon Kim
G11	Effect of the Parameter Mismatch on Partial Synchronization in Coupled Chaotic Systems	*Woochang Lim, Sang-Yoon Kim
G12	The analysis of volatility correlation behavior using a generalized detrended fluctuation analysis(DFA)	전우철, 김승환

Effect of the Parameter Mismatch on Partial Synchronization in Coupled Chaotic Systems *Woochang Lim, Sang-Yoon Kim (강원대)

We investigate the effect of the parameter mismatch on partial synchronization in three coupled one-dimensional maps. A completely synchronized attractor on the diagonal loses its transverse stability through a blowout bifurcation, and then partial synchronization may occur on an invariant plane. Due to the existence of positive local transverse Lyapunov exponents, the partially synchronized attractor becomes sensitive with respect to the variation of the mismatching parameter. Thus, in the presence of parameter mismatch, the invariant plane on which partial synchronization occurs is destroyed, and then an intermittent bursting from this plane occurs. To measure the degree of such parameter sensitivity, we introduce the parameter sensitivity exponent and characterize the parameter-mismatching effect on the intermittent bursting. The scaling exponent for the average interburst time is thus found to be given by the reciprocal of the parameter sensitivity exponent. Similar results are also obtained in three coupled pendula.