1982年度 春季

韓國物理學會 第44回 定期總會

行事 프로그램
發表論文抄録

때: 1982年 4月 23日 (金) 09:00～18:00
1982年 4月 24日 (土) 09:00～12:30

장소: 陸軍士官學校
A Molecular Dynamics Simulation of Simple Liquid Under Shear. Sang-Youl Kim, Sung-Chung Ahn (Korea Military Academy), Jong-Jean Kim (KAIST). To study the microscopic behavior of liquid lubricant under extreme conditions of pressure and shear rate, a molecular dynamics (MD) investigation of a model liquid composed of 108 Lennard-Jones particles has been carried out. The "segmented MD" method based on Verlet algorithm has been employed in the calculation to reduce the effect of thermal fluctuation. The fundamental idea of calculation with a few preliminary data will be discussed and compared with available theory. The data will include the viscosity, the behavior of response function under pulsed shear rate. The viscosity, auto-correlation function and mean square displacement with diffusion constant data of the base fluid, without perturbation, will be presented also.

On the Biased Random Walk Process. Bong Sun Kim, Wooyang Kang (Korea Univ.). By using Rice method, the two dimensional biased random walk process is discussed. The probability density of each step is taken to be proportional to \( \exp(-\alpha|\theta|) \), where \( \alpha \) is a positive constant and \( \theta \) is the angle measured from the positive x-axis. The various moments and the drift velocity are calculated from the above model. With these results, we discuss the field intensity as the function of \( \alpha \) and compare with the Drude model.

Chirikov의 standard mapping과 Helleman의 standard form 관계에 대하여. 이구철, 김상운(서울대), 최석인(과학원). Chirikov의 standard mapping이라 불리는 \( T(I_{n+1} = I_n - K \sin \theta_n, \theta_{n+1} = \theta_n + \beta I_n + \frac{I_{n+1}}{I_{n}}) \)는 stochasticity를 보이는 비선형 비가역계의 mapping으로 일반
1.4. Large $q$ expansion of the Potts Model Susceptibility and \textit{metization in two and three Dimensions.} Hyunggyu Park and Doochul (Seoul Nat’l Univ.). Large $q$ expansion formalism of the $q$-state Ising model is used to obtain the susceptibility and the spontaneous polarization series at the first order phase transition temperature of the two and three dimensional lattices. The series analysis in the two dimensions did not reveal any definite information as to the singularity structure at the critical value of $q$ where the transition lines continuous while, in two dimensions, our results were consistent with the scaling picture of Cardy et. al. (2) Accurate estimates of the transition temperatures of the three dimensional lattices for $q > 3$ were obtained.