Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Particle Jumps in SiO_2: A Computer Simulation[1] ROBIN BJORKQUIST, Reed College, KATHARINA VOLLMAYR-LEE, Bucknell University, JUERGEN HORBACH, DLR, Koeln, Germany — We use molecular dynamics simulations to investigate the aging dynamics of SiO_2 modeled by the BKS potential. The system is well equilibrated at temperature $T_{\rm high}$ and then quenched to $T_{\rm low}$. We characterize the dynamics by means of jumps in single-particle trajectories and measure the number of jump events, the number of jumping particles, and jump size. All measured quantities increase with increasing $T_{\rm low}$ and decrease with increasing waiting time. For the largest investigated temperatures $T_{\rm low}$ and for long enough waiting times the system reaches equilibrium and all measured quantities become independent of $T_{\rm high}$ and waiting time.

[1]RB thankfully acknowledges support from NSF REU grant PHY-0552790. KVL thanks the Institue of Theoretical Physics, University Goettingen, for hospitality and financial support.

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Date submitted: 26 Nov 2007 Electronic form version 1.4