# Divergence of viscosity in jammed granular materials: a theoretical approach

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A theory for jammed granular materials is developed with the aid of a nonequilibrium steady-state distribution function. The approximate nonequilibrium steady-state distribution function is explicitly given in the weak dissipation regime by means of the relaxation time. The theory quantitatively agrees with the results of the molecular dynamics simulation on the critical behavior of the viscosity below the jamming point without introducing any fitting parameter. I will also talk on what is the real time scale near the jamming to discuss the validity of the theoretical analysis through the numerical simulation. This talk is mainly based on the following paper[1].

Reference
1. K. Suzuki and H. Hayakawa, Phys. Rev. Lett. 115, 098001 (2015).