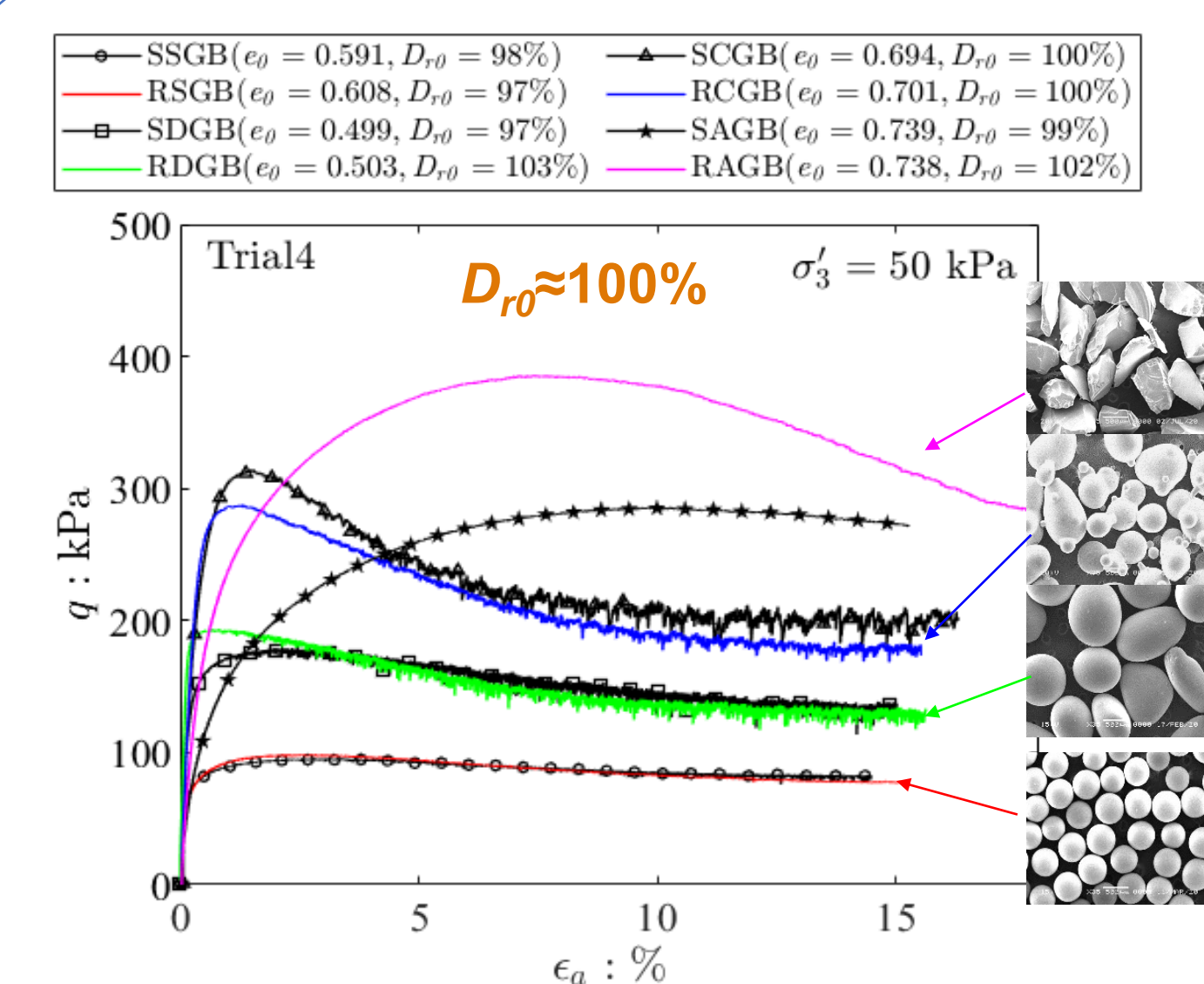
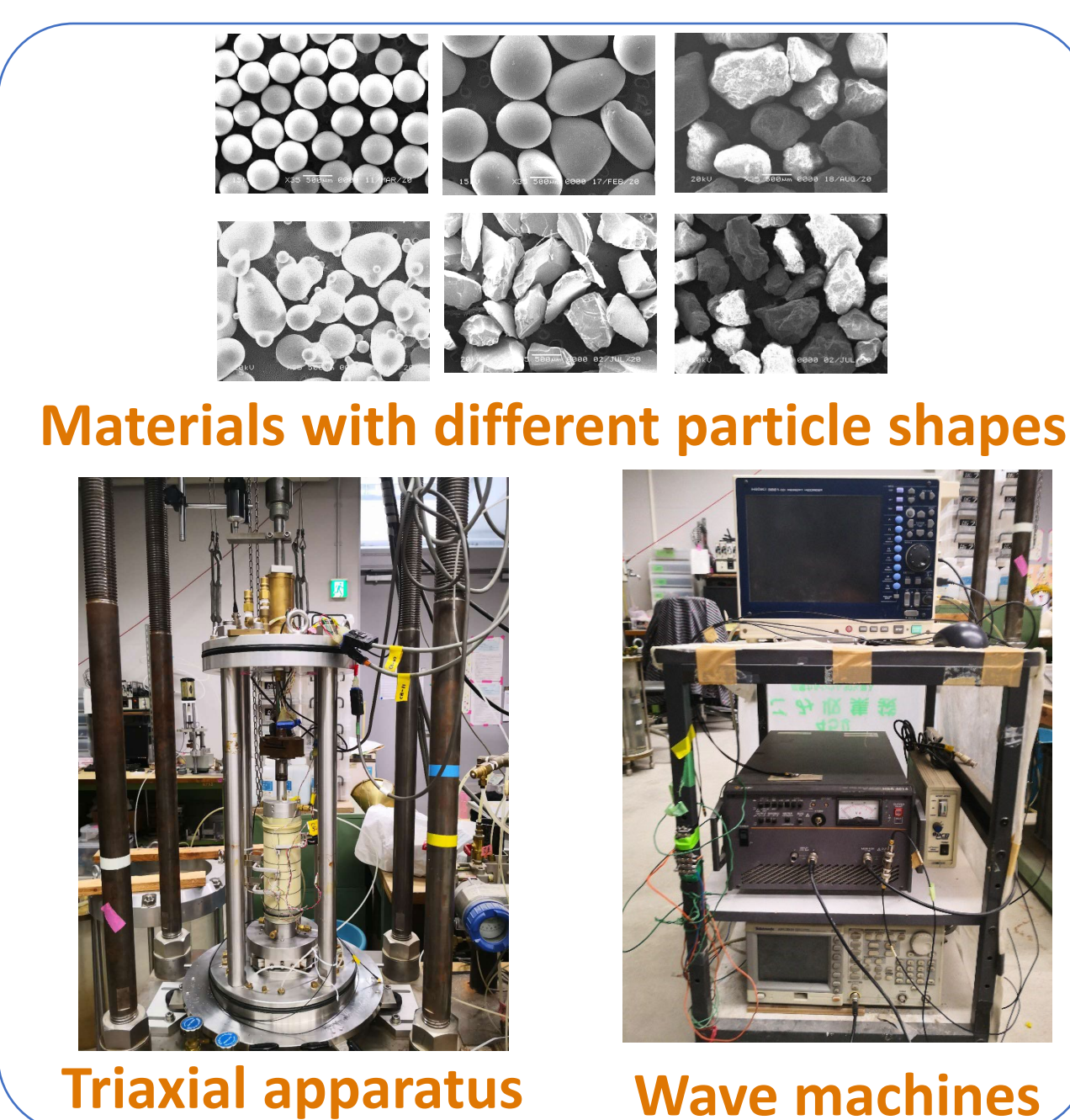
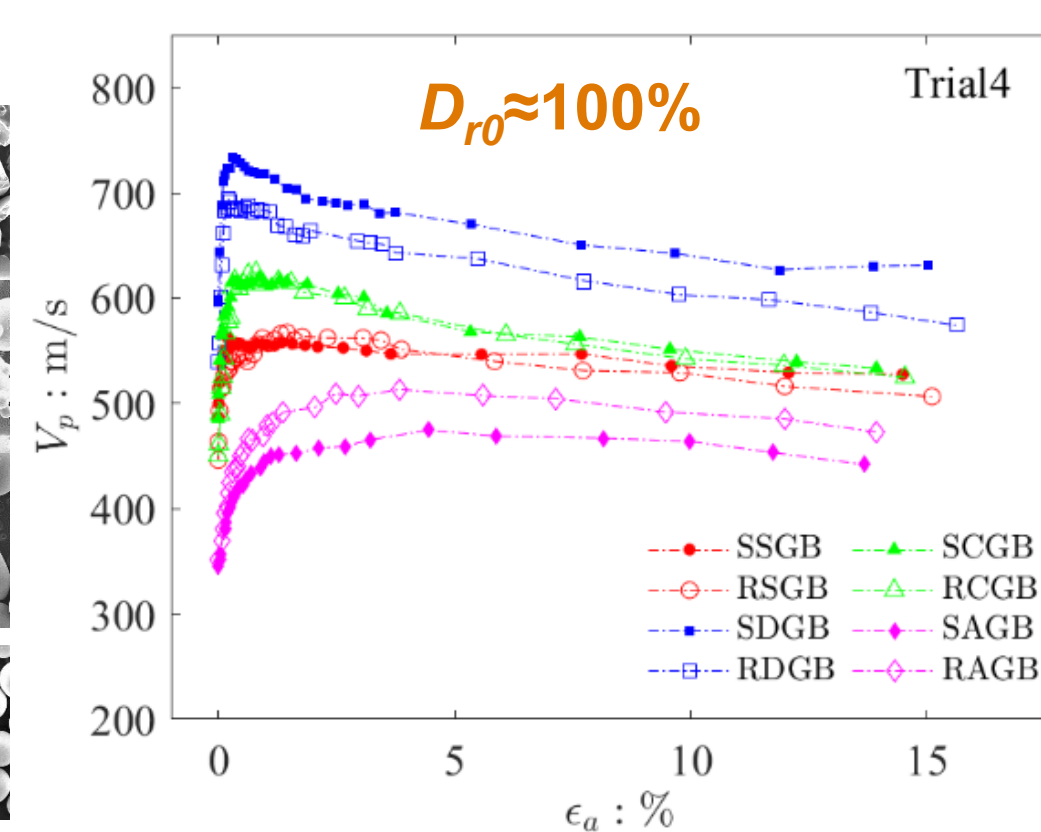


Sandy soils are generally treated as cohesionless granular particles whose macroscopic responses are determined by particle-scale parameters. It is essential to have a better understanding of the effect of particle morphology on the mechanical response of granular materials. Physical experiments are conducted and discrete element method (DEM) is applied. In the meantime, the effect of particle morphology on the propagation of stress waves is also examined by performing wave measurements throughout the loading process in the laboratory. The evolution of stress waves during loading is investigated using DEM simulations.

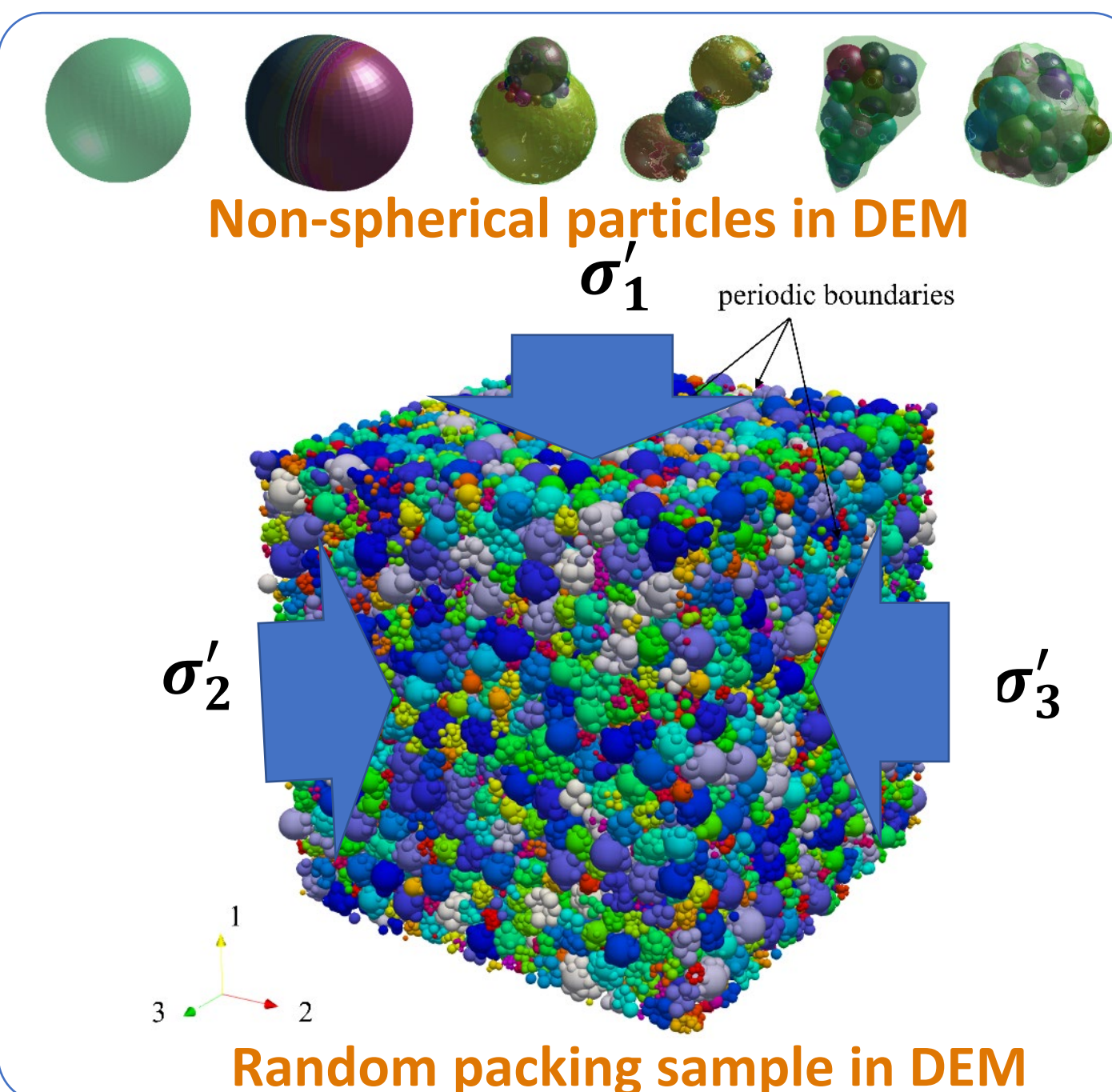
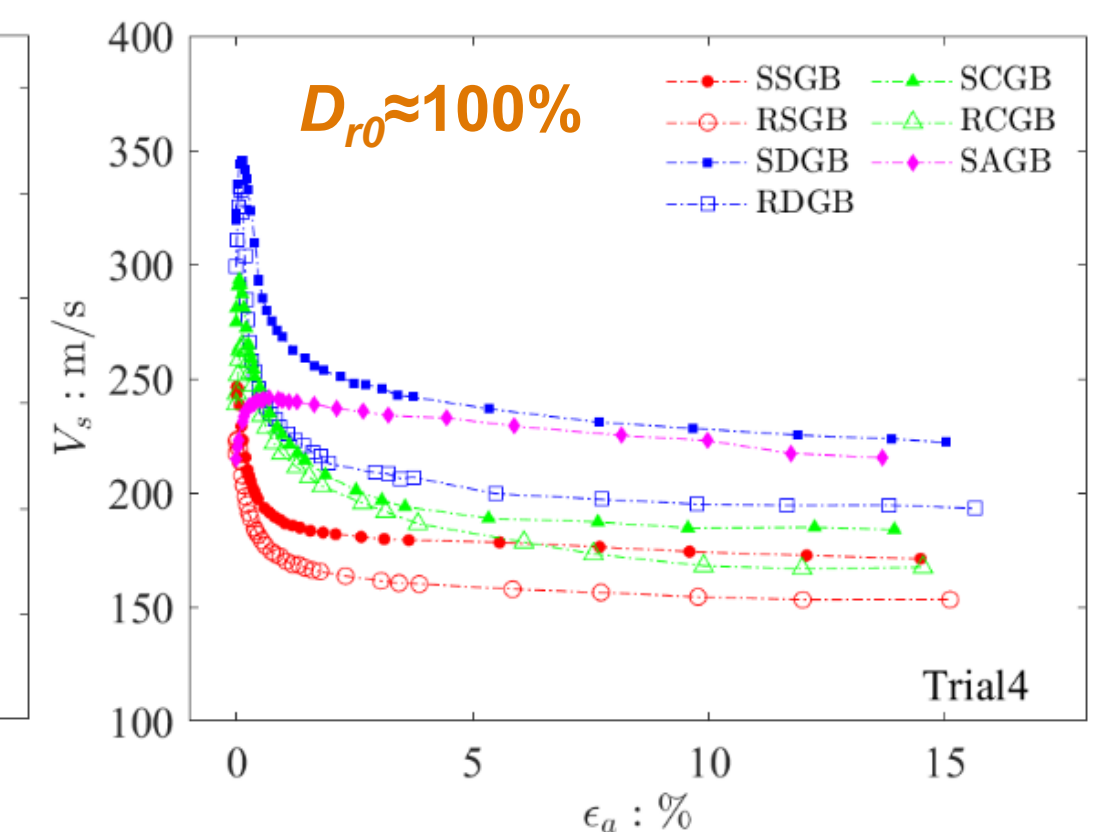
砂質土のような粒状材料の力学特性は、個々の粒の状態に影響されると考えられます。粒子の形状や表面粗度などの粒子形態が巨視的な力学応答に及ぼす影響を、室内要素試験と個別要素法（DEM）により検討しました。また、供試体中の応力波の伝播に対する粒子形態の影響も、せん断中に弾性波を測定して調べました。



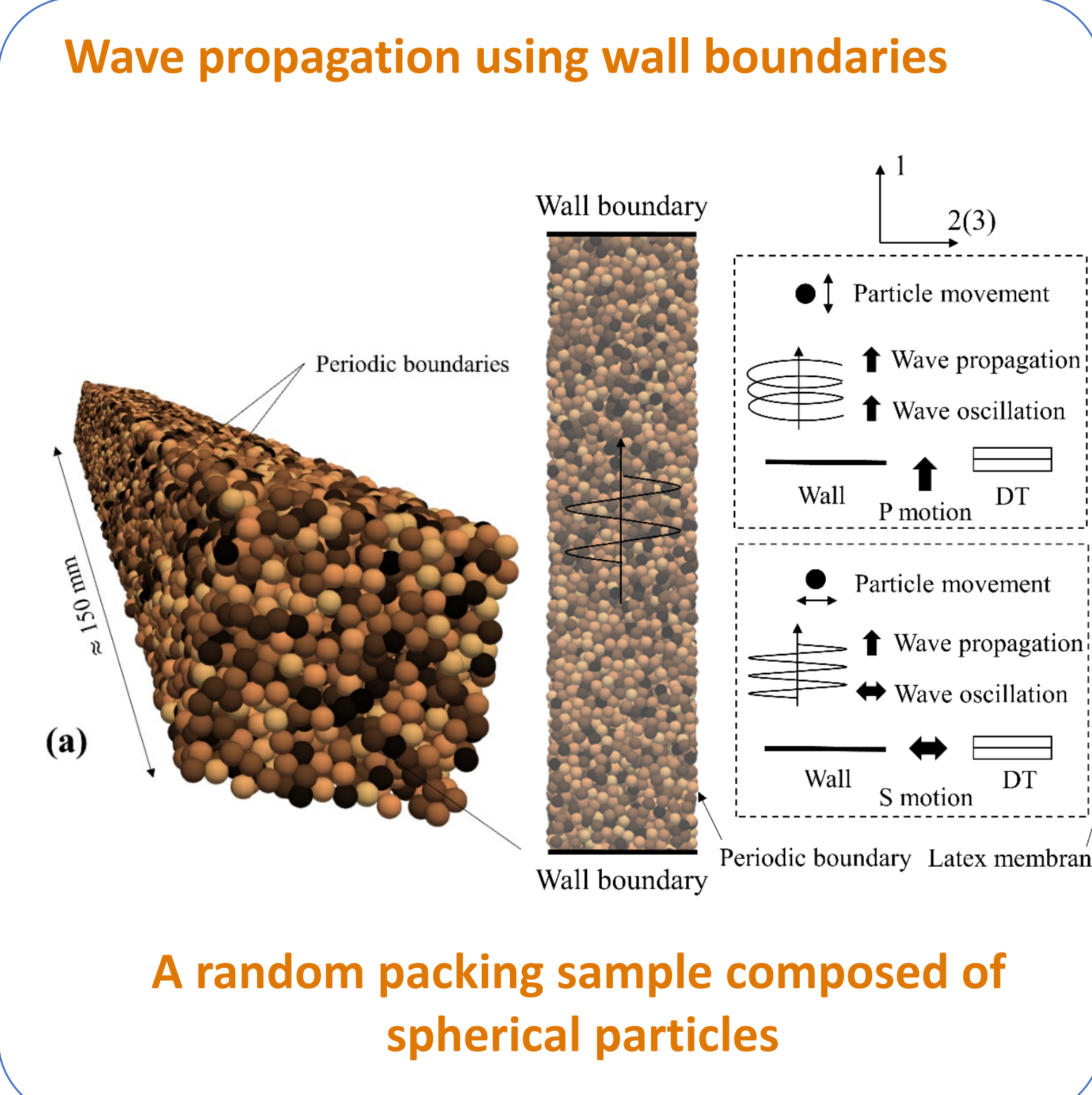
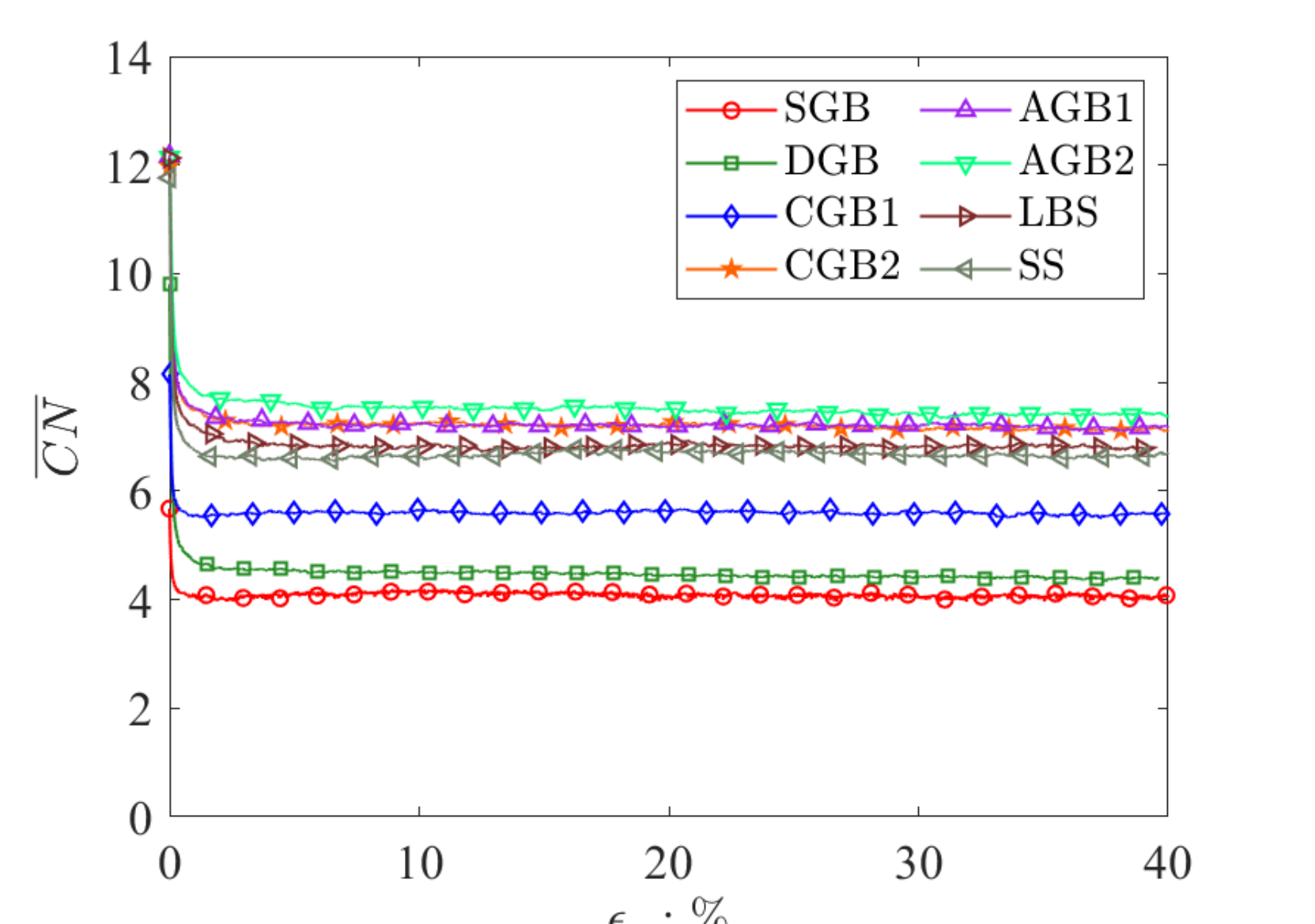
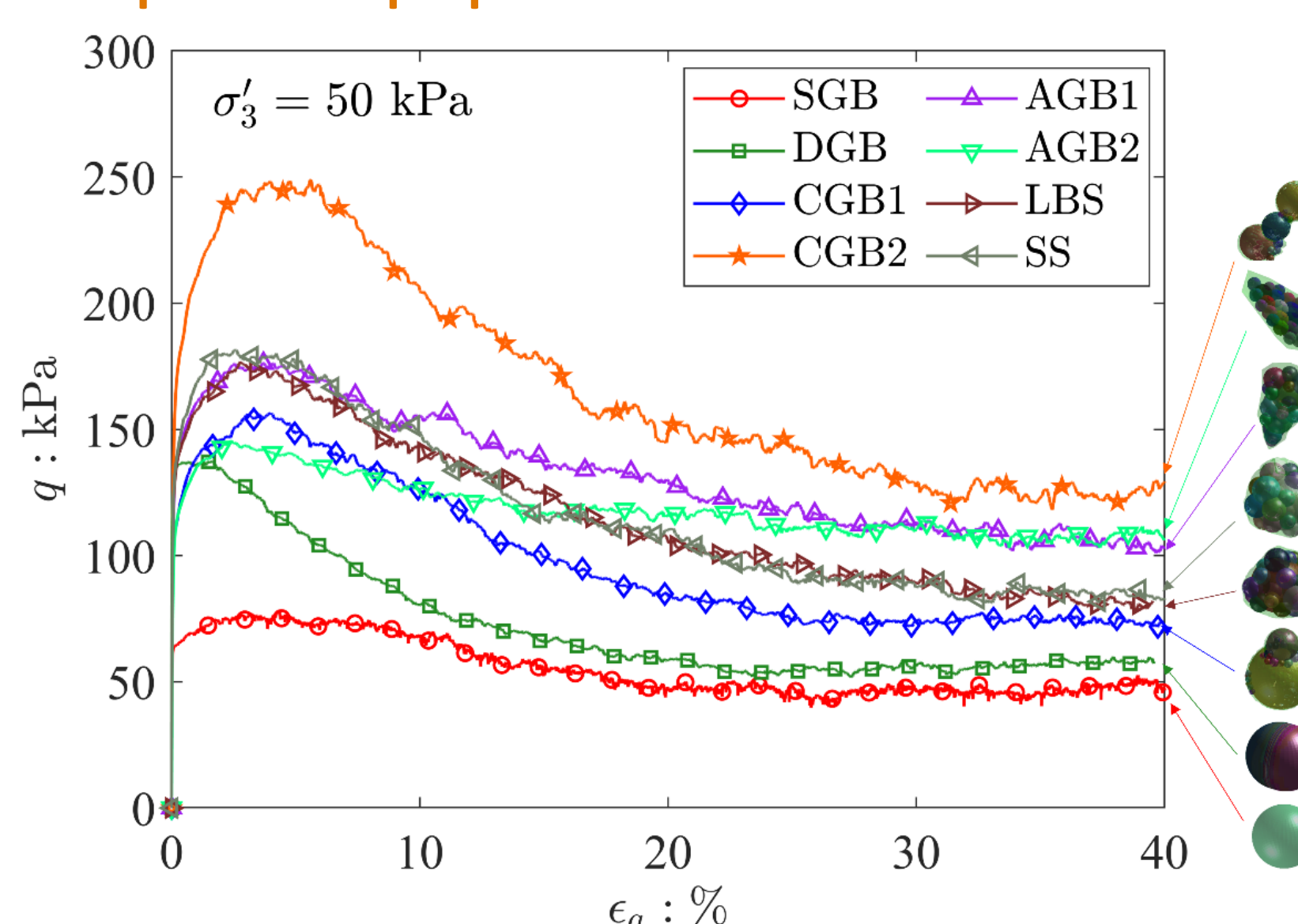
Compression waves



Shear waves



Samples were prepared under a densest condition.



Relationships between V_p , V_s and the soil fabric ($\Phi_{ij} = \frac{1}{N} \sum_{k=1}^N n_i^k n_j^k$)

