

FORCE TRANSMISSION IN GRANULAR MEDIA

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By means of contact dynamics simulations, we show that the force network in a dry granular medium is composed of two distinct but complementary networks, "weak" and "strong" subnetworks, which contribute differently to stress transmission. In quasi-static equilibrium the weak network, containing nearly 60% of contacts, contributes 29% to the average pressure, but its contribution to shear stress is negligible. The whole shear stress is thus carried by the strong network containing only 40% of contacts.