

Particle Tribocharging Matters:

From Planet Formation to Assembling Crystals

Tribocharging is the spontaneous charging of two bodies when released from contact. Even though its manifestation is commonplace, e.g., when rubbing a balloon across your hair, scientists find this phenomenon a mystery.

The present contribution marries the conceptual ideas from chemists, materials scientists and physicists on the tribocharging of particles at various scales, e.g., assembling of crystals comprising microspheres or colloids. In addition, the potential of shape anisotropic particles is highlighted.

Finally, this cross-disciplinary phenomenon encompasses such a rich complexity that unravelling it will be advantageous to the quest for manufacturing novel responsive materials, energy harvesters, wearable materials, more efficient solar panels, and our understanding of planet formation.

