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Dynamical Properties of Granular Materials

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Abstract content
 (Max 300 words)
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We discuss the dynamical properties of granular matter. This system loses energy (cools) continuously because of the inelastic collisions between particles. We focus on freely-evolving granular gases. The gas initially cools in a homogeneous cooling state (HCS), but a clustering instability drives it into an inhomogeneous cooling state (ICS). We present results for the HCS and ICS of granular gases where (a) the restitution coefficient is constant; (b) the restitution coefficient depends on the relative collision velocity. We discuss the analytical and numerical techniques used to study granular gases.

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