

See the World through Particles

登顆粒而小天下 — 淺談顆粒模擬

Abstract:

Particle-Based Methods (PBMs) is a family of numerical methods which illustrate the world as discontinuous points. We can easily find its shadow from solid to fluid mechanics, from engineering to film industry. In this talk, the speaker will talk about several famous PBMs, which includes the Molecular Dynamics (MD), Discrete Element Method (DEM), Smoothed-Particle Hydrodynamics (SPH), Material Point Method (MPM), and Peridynamics (PD) in personal experience and opinion. Several examples, such as particle flow, fresh concrete flow, failure of solid concrete, contact and collapse of structure, soft rope and metal net, rock protection, simulation of flood and wave, will be used to show their applications and wish it can give the audience an alternative way to see our world.



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Aries earned his doctorate from National Taiwan University (NTU) in 2009 and currently is an assistant researcher at National Center for Research on Earthquake Engineering (NCREE) in Taiwan. In addition, he is also serving in the NTUCE-NCREE joint Artificial Intelligence Research Center.

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