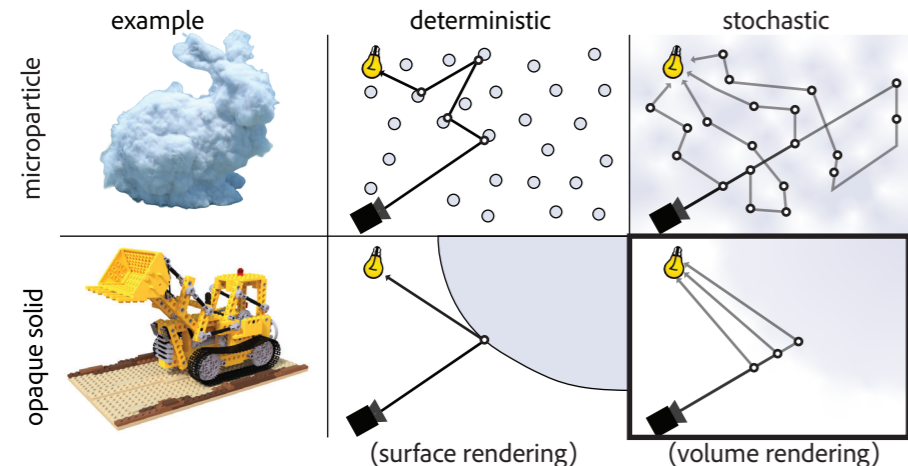


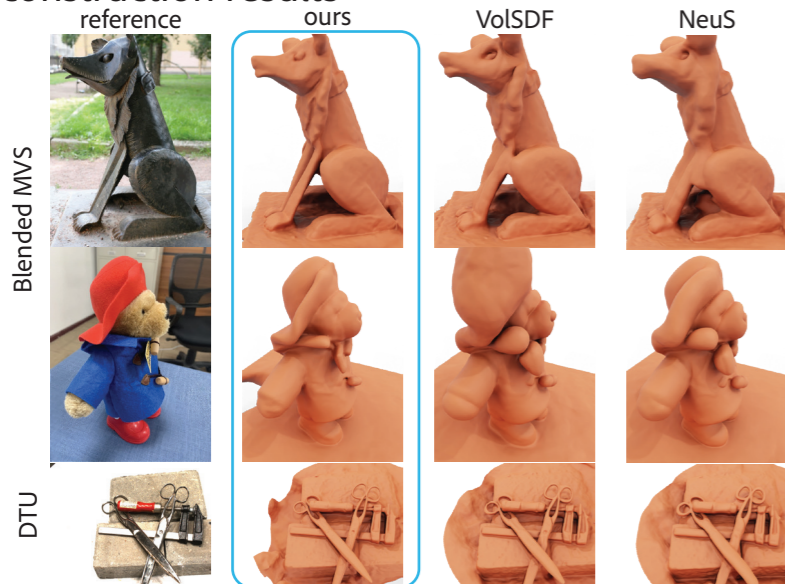


motivation

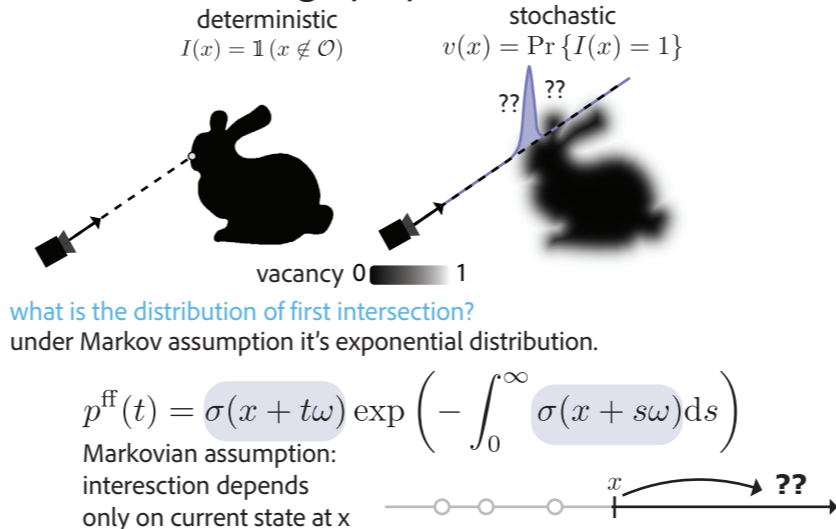
- NeRF volume renders solid objects using a model intended for microparticles
- we instead develop a volumetric model for stochastic opaque solids



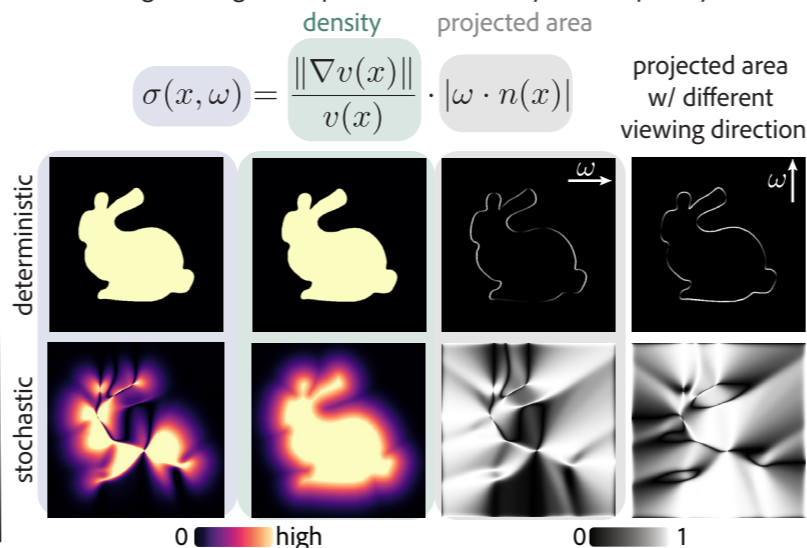
reconstruction results



volume rendering opaque solids

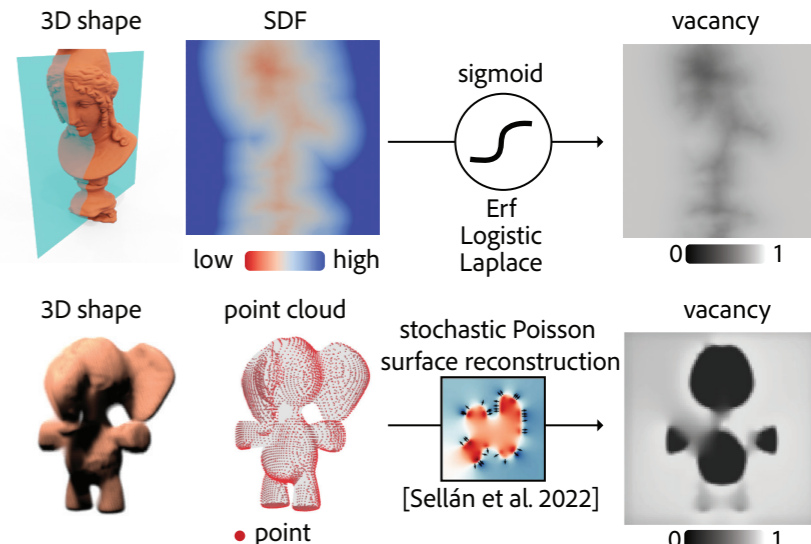


what is the attenuation coefficient?
derived using Kolmogorov equations, reversibility and reciprocity.



vacancy representations

- supports volume rendering of representations like SDF or point clouds
- parameterize vacancy using geometric representations
- explains and improves methods like NeuS and VolSDF



spatially varying anisotropy

- we consider projected area under various distributions of normals
- directly analogous to microfacet and microflake models (i.e. GGX, SGGX)
- we use a linear mixture model and learn spatially varying mixture param

