

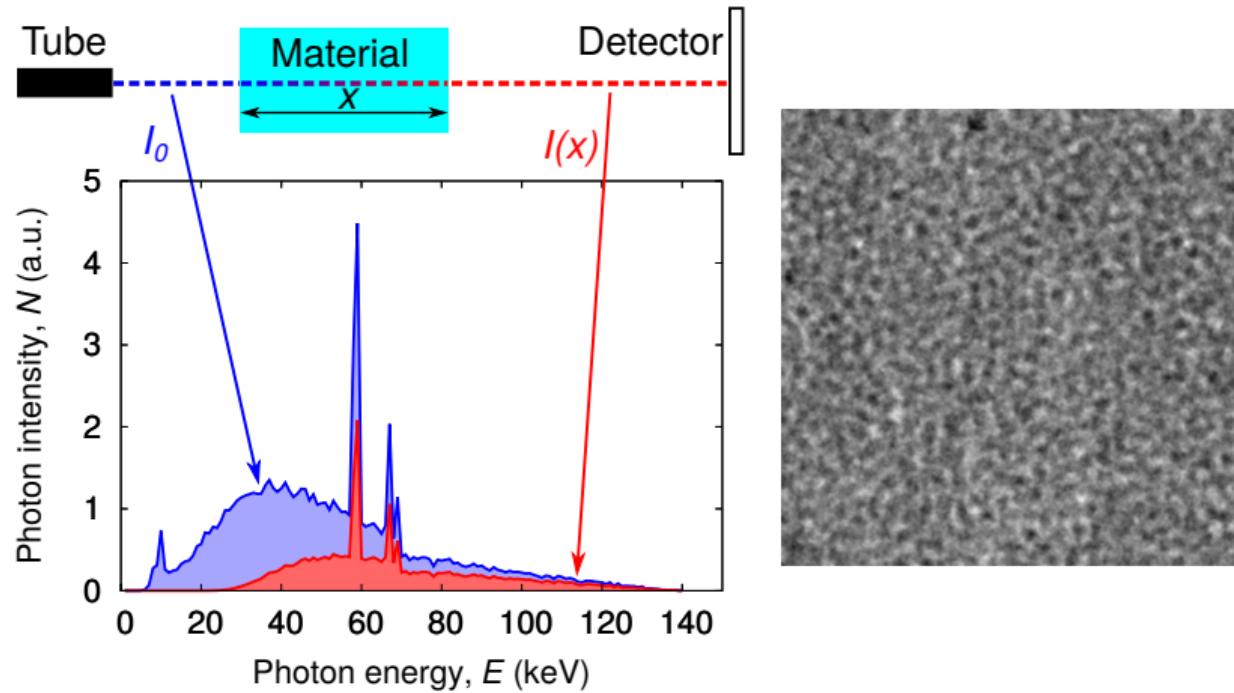


PhD defense **Manuel Baur**

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1653

X-ray radiography of granular systems – particle densities and dynamics



X-ray radiography of granular systems – particle densities and dynamics

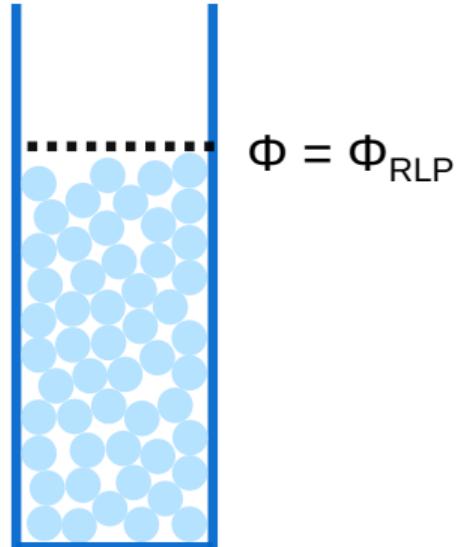


X-ray radiography of granular systems – particle densities and dynamics



Volume fraction

$$\Phi = \frac{V_{\text{Particles}}}{V_{\text{Container}}}$$



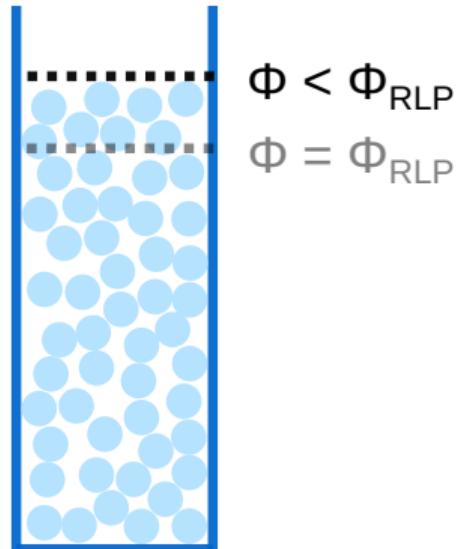
X-ray radiography of granular systems – particle densities and dynamics



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X-ray radiography of granular systems – particle densities and dynamics



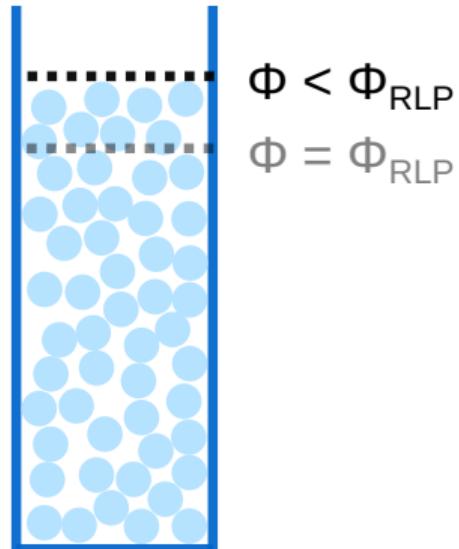
Dissipative interactions



Driscoll *et al* (2016)

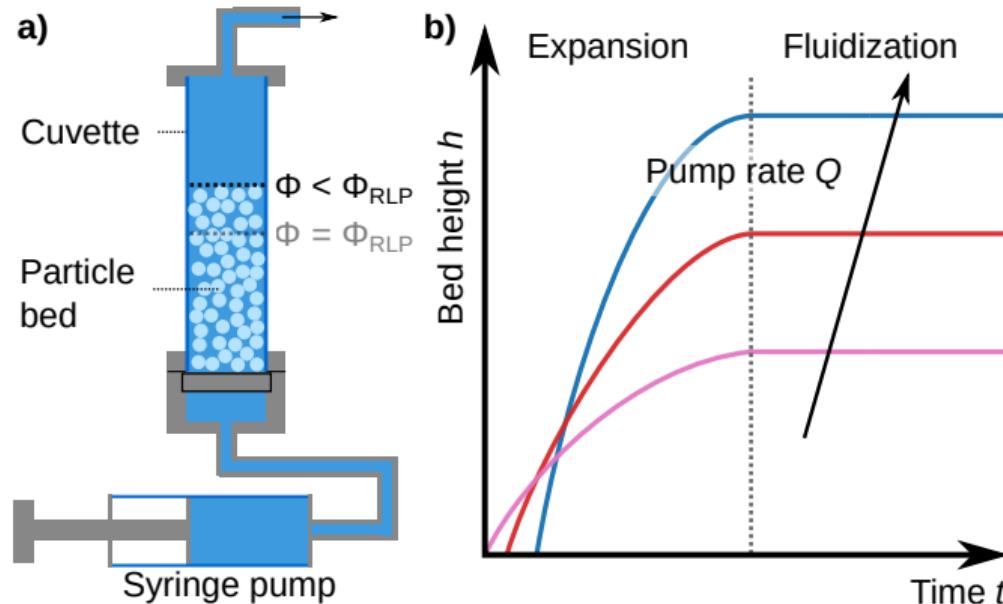
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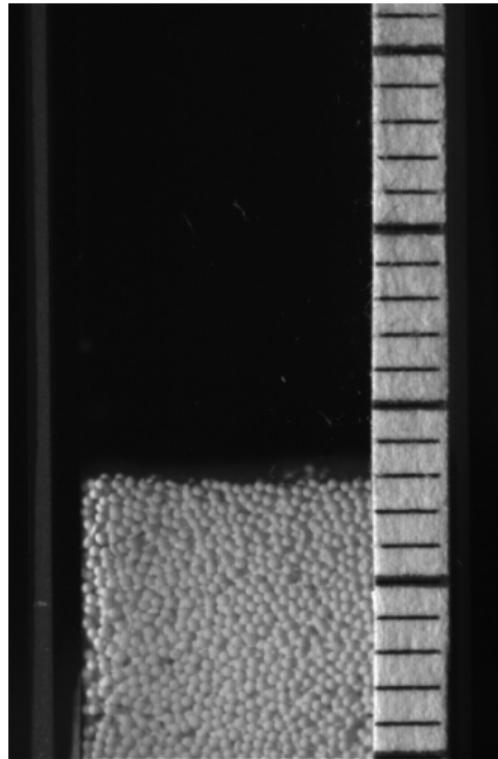
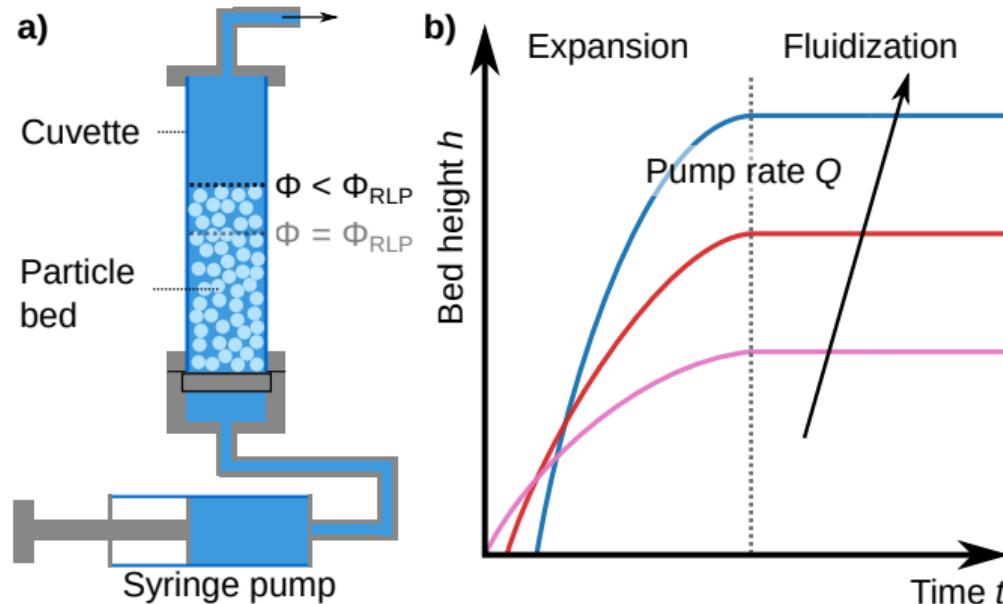
X-ray radiography of granular systems – particle densities and dynamics

Liquid fluidized bed



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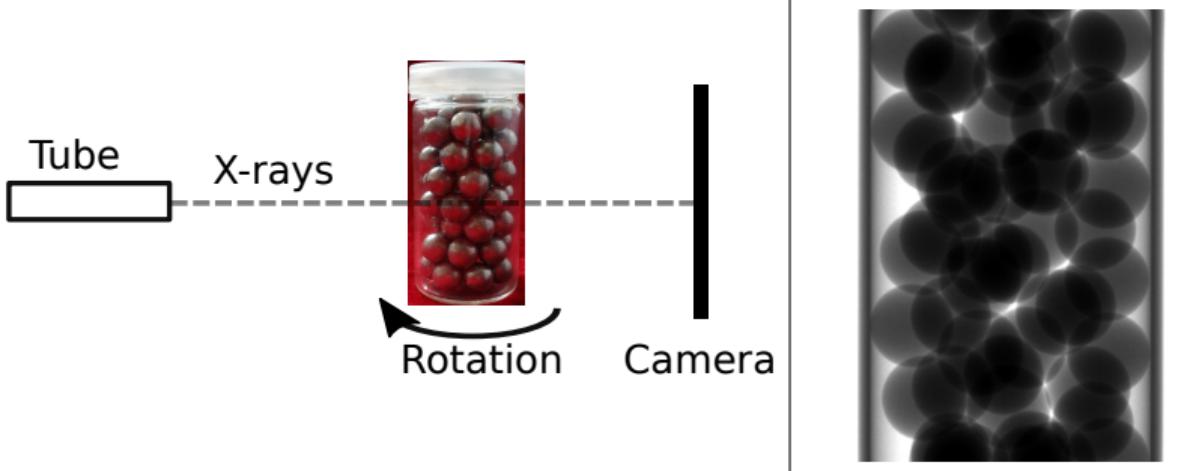
Liquid fluidized bed



Master thesis Welm Pätzold

Particulate flows are opaque

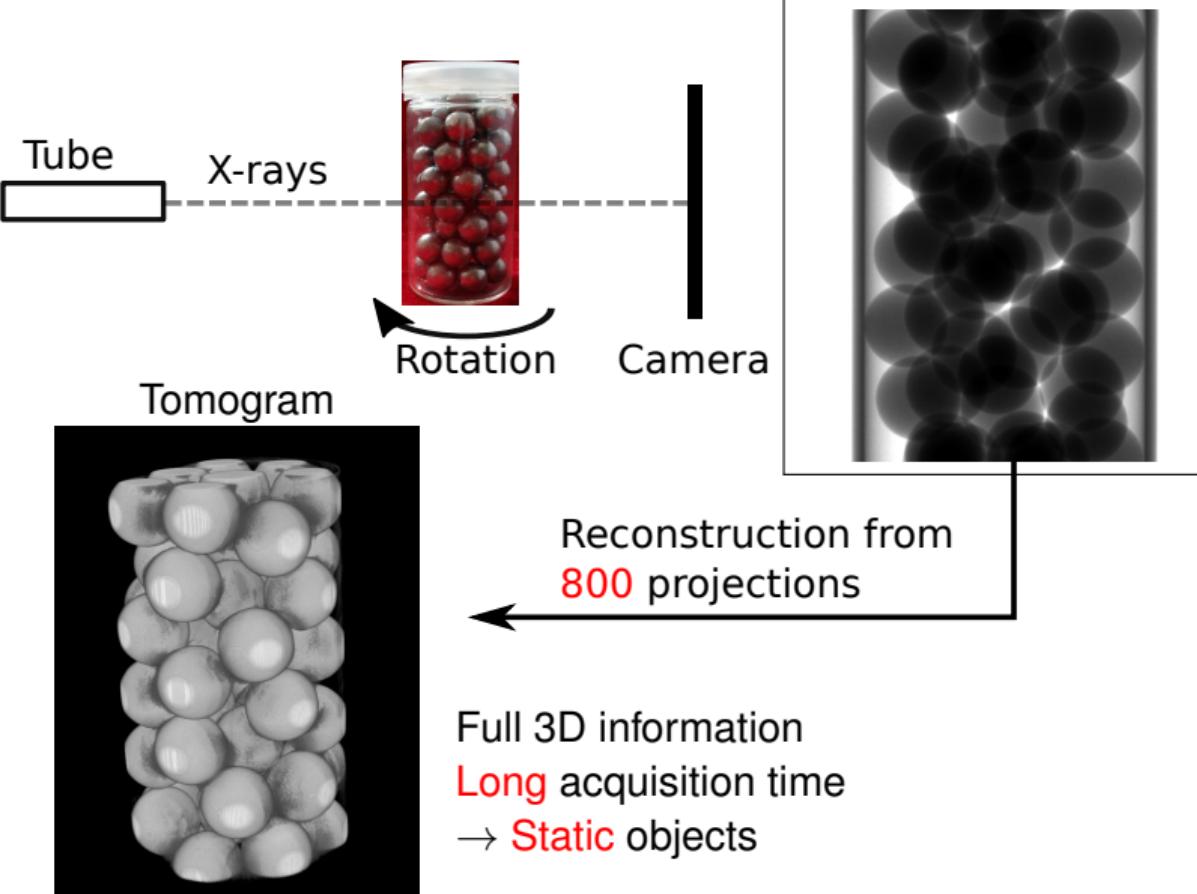
X-ray radiography & tomography



Radiogram

2D projections of 3D object
Short acquisition time
→ Dynamic system

X-ray radiography & tomography



2D projections of 3D object
Short acquisition time
→ Dynamic system

Full 3D information
Long acquisition time
→ Static objects