

Digital reconstruction of reservoir sandstones to predict hydraulic and mechanical rock properties

Aim

Generate highly-resolved **synthetic sandstone** samples over a broad range of porosities, with variable size, sorting and shape of grains.

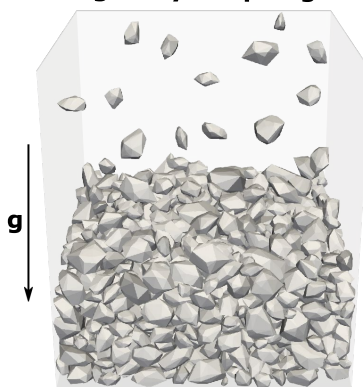
Methods

Digital sandstones are constructed by a **process-based approach** combining sediment **deposition** and diagenetic **cementation**.

Results

Granulometric, hydraulic and elastic properties of **synthetic samples** equivalent to those of the investigated **natural sandstones**.

Gravity-driven deposition of irregularly shaped grains



Diagenetic cementation

