OVERVIEW

paani   debanshu singh & sanchit garg

POSITION BASED FLUIDS

Miles Macklin & Matthias Muller, NVIDIA

SIGGRAPH 2013

Position Based Dynamics (CIS 563)

PBD + **SPH**

Smooth **Particle** Hydrodynamics (CIS 563)

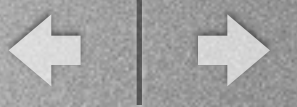Key Idea : Solves system of **constraints** to update particle positions directly

Key Idea: **Particle**-based method for fluid simulation

FAST & STABLE
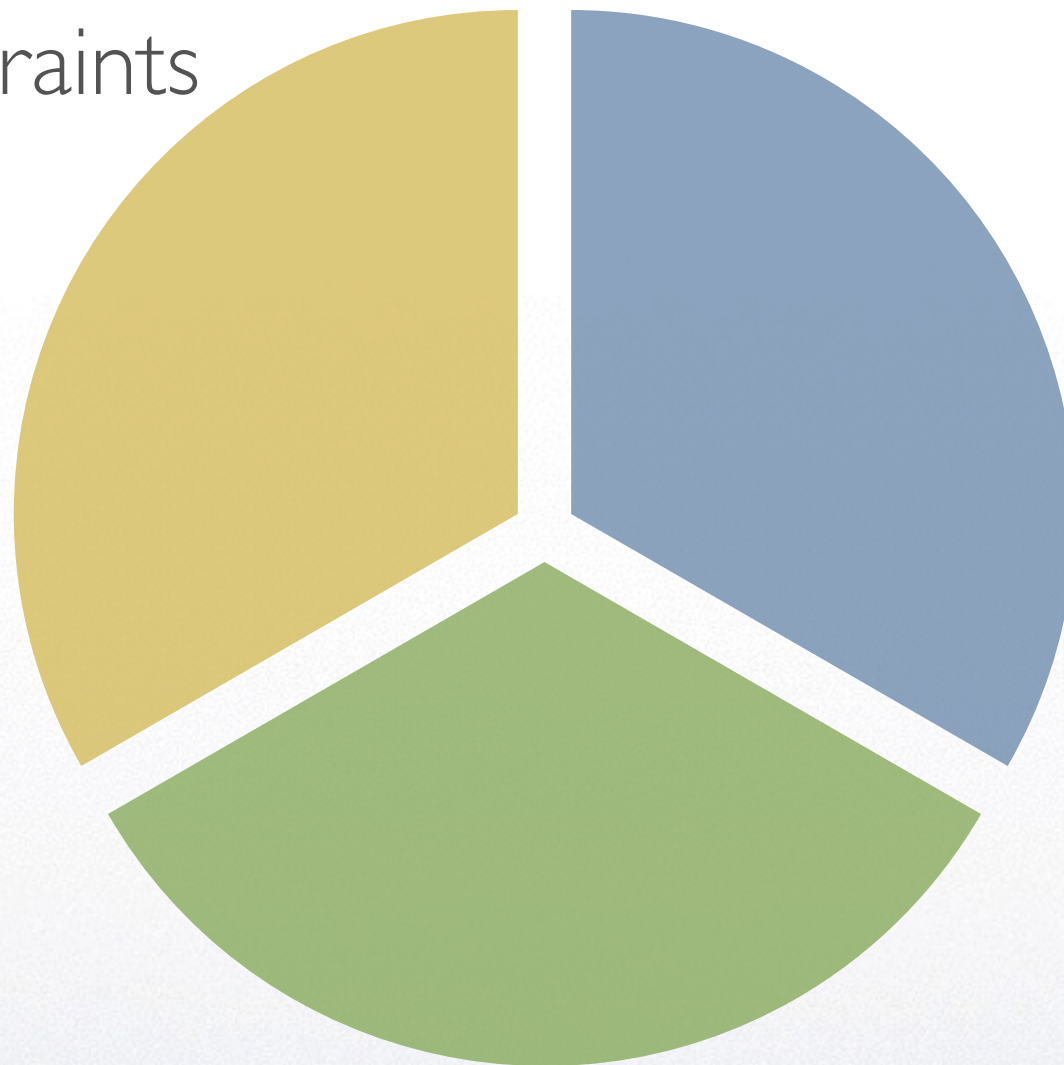
LOOKS GREAT BUT SLOW
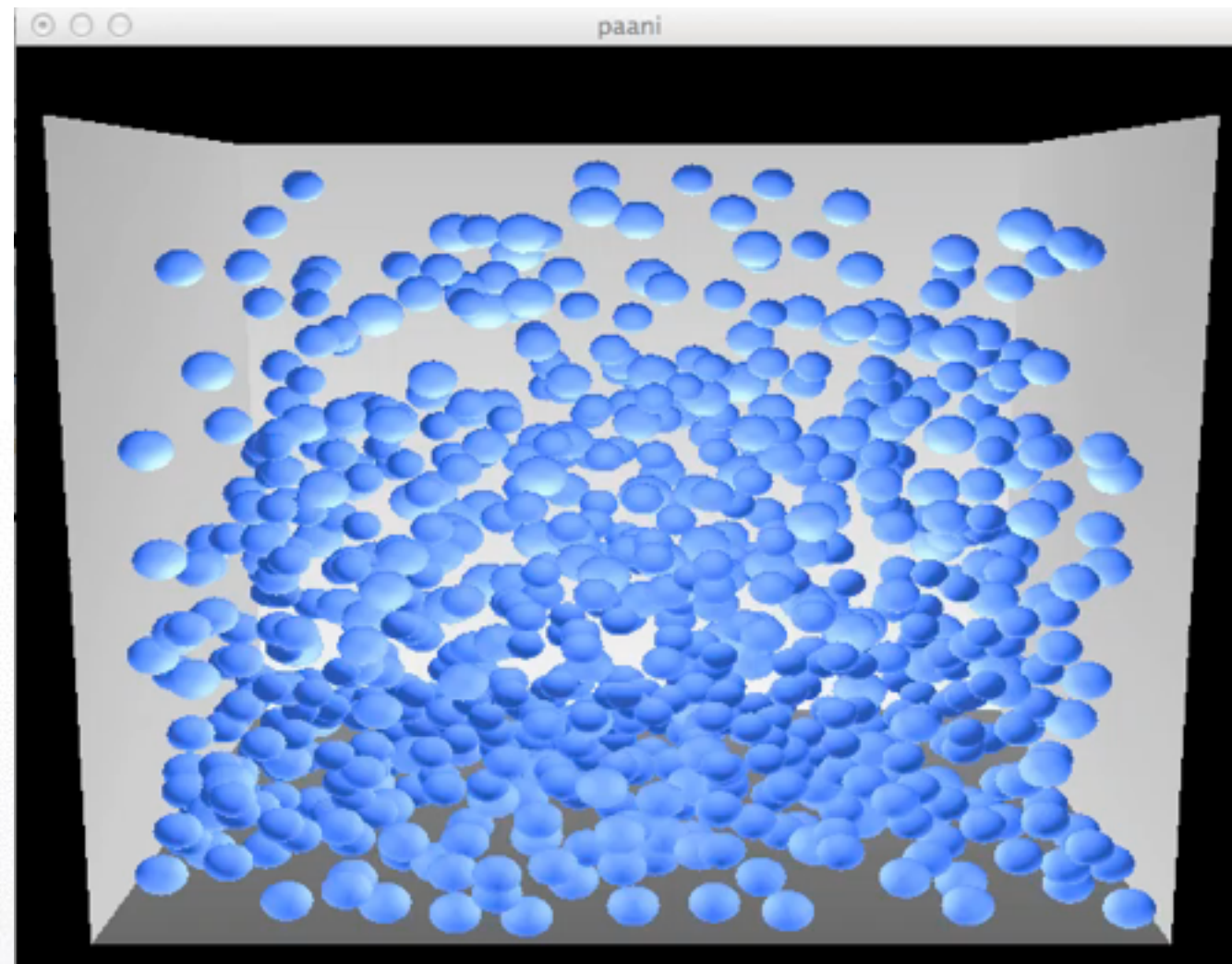
Incompressibility

SPH Density Constraints

Particle Visualization

OpenGL

PBD Jacobi Solver

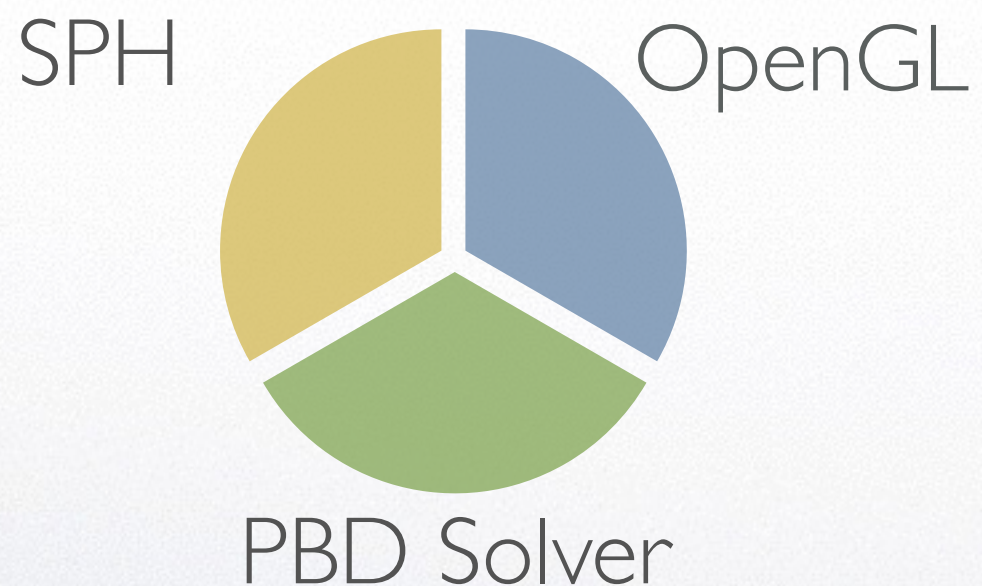- **Fast & Highly Stable** compared to SPH - allows large time steps

RESULTS

Final Version

Paani - Alpha Sprint

Paani - Beta Sprint

SPH   OpenGL

PBD Solver

+

Fluid Visualization in Houdini

Improve Speed of Neighbor Search