2D Fluid Simulation

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Physically-Based Simulation in Computer Graphics

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Theory

- Fluid as particle system
- Forces
  - Gravity
  - Lennard-Jones
- Collision control: Set back to surface, mirror velocity

Implementation

- Computations and ugly videos: MATLAB

- Creation of a POV-Ray input file for every frame

- Rendered with POV-Ray using the „blob" primitive

Improvements

- Use hash table for particles
- Use Navier-Stokes (plus maybe surface tension) instead of Lennard-Jones
- POV-Ray „blob" is not the isosurface of the color field but uses a linear Kernel
- Threedimensional