What Game Engines can do for Mathematical Visualization

Ulrich Pinkall

TU Berlin

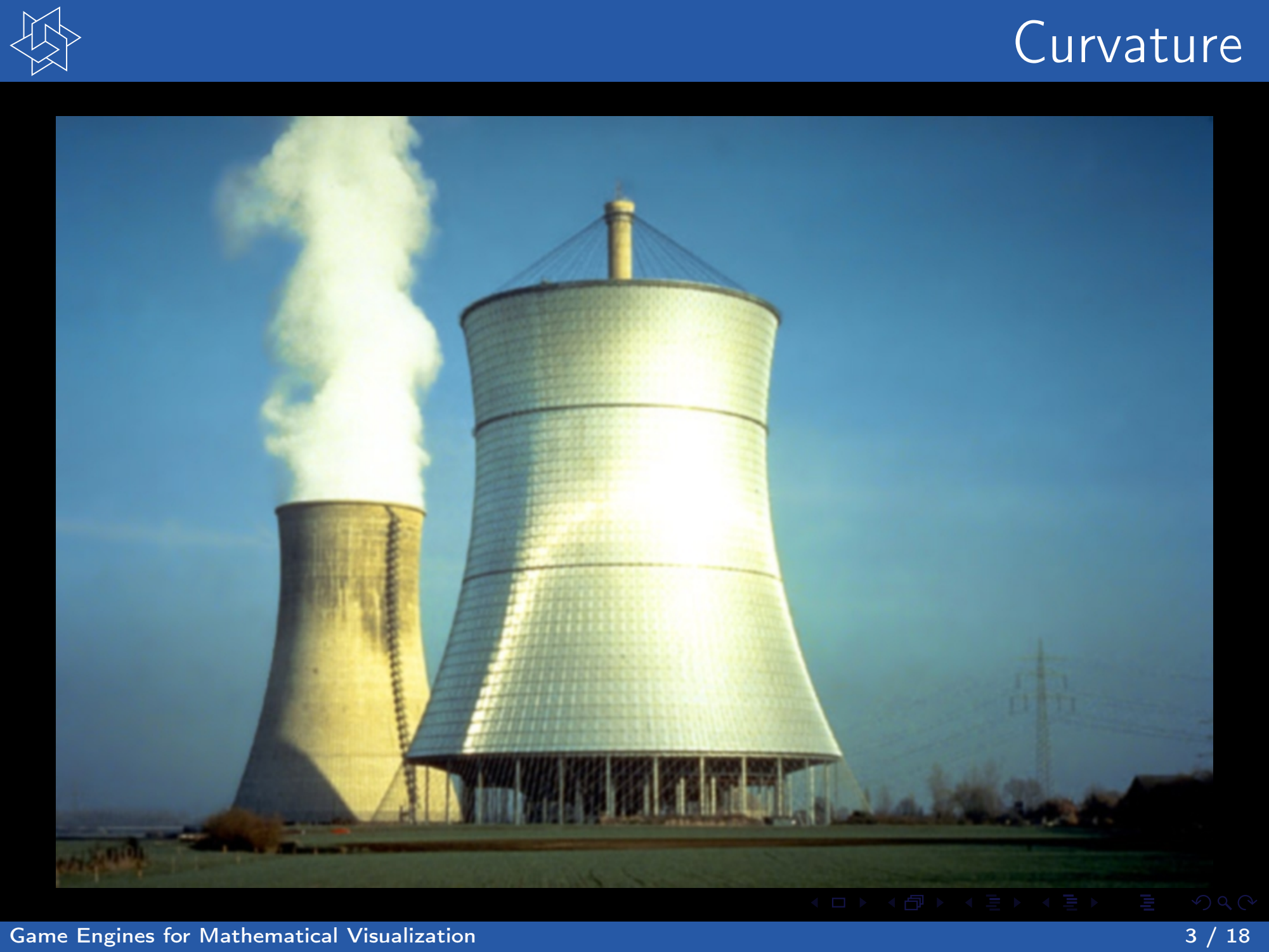
Lunch Bunch Caltech

DFG Research Center MATHEON

Mathematics for key technologies

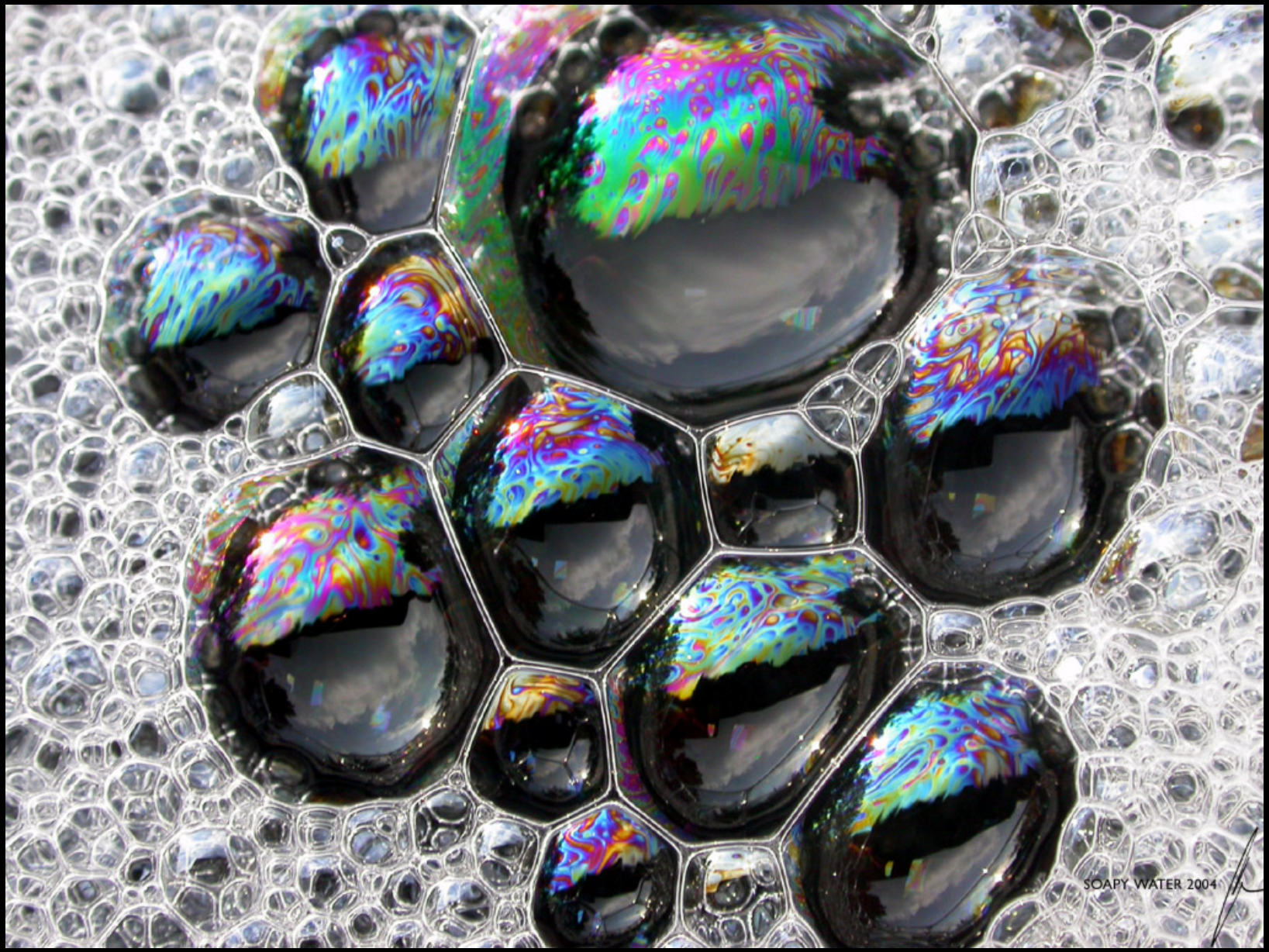
3/18/2008

Curvature

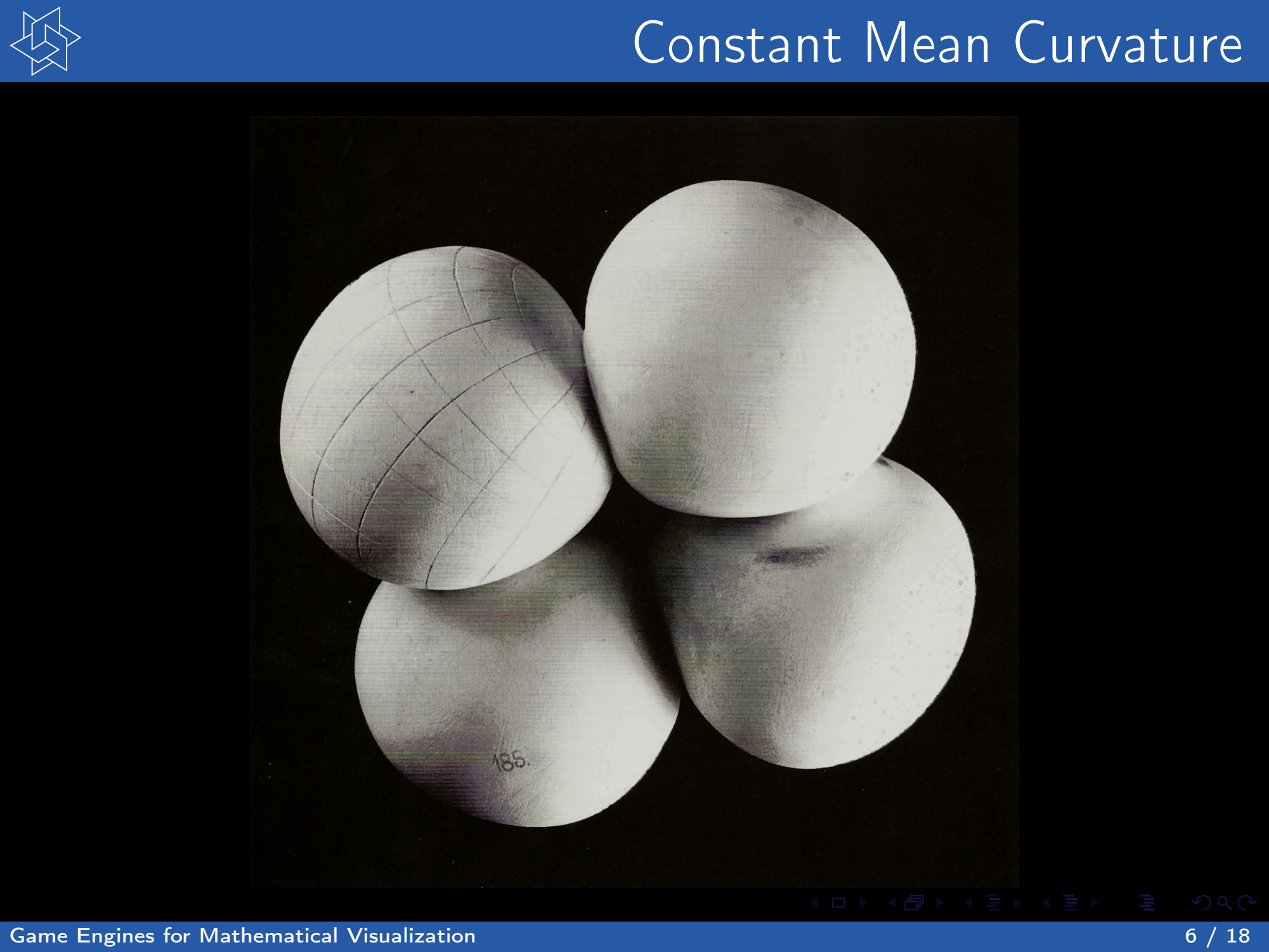


Curvature

Constant Mean Curvature



Constant Mean Curvature



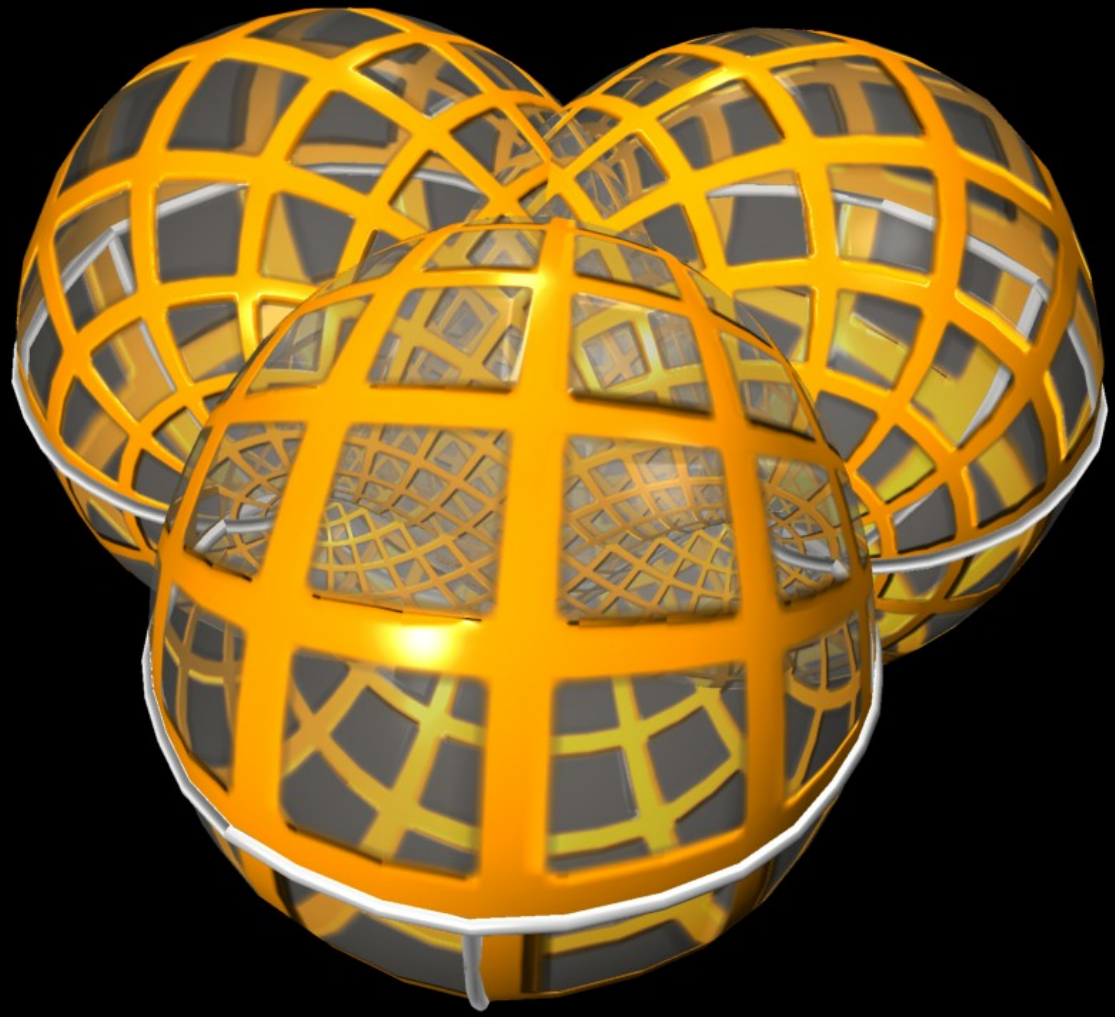
Constant Mean Curvature

Round Spheres

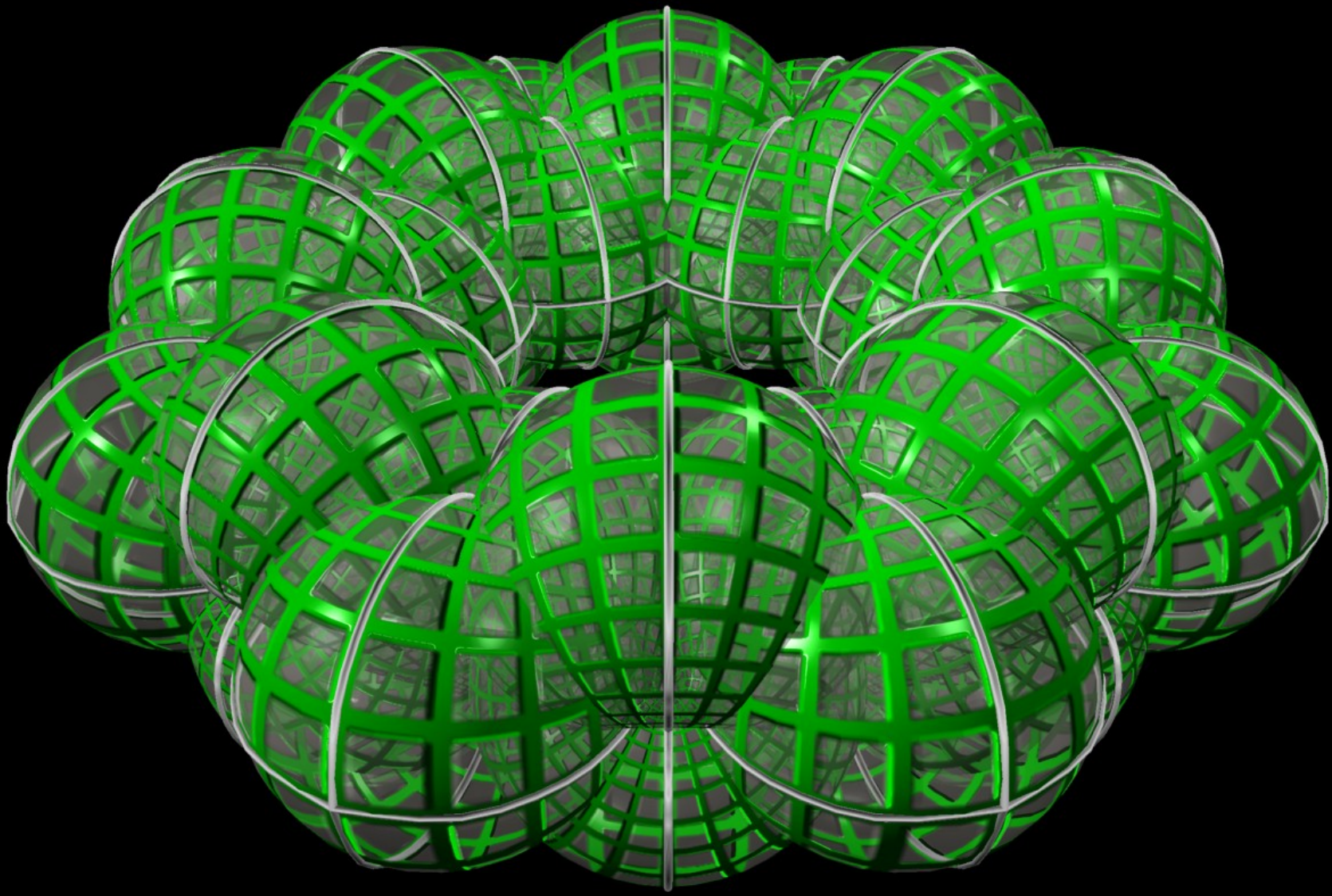
Topological Spheres

Surfaces without Self-Intersections

Surfaces without Self-Intersections



Dobriner Torus



More CMC Tori . . .

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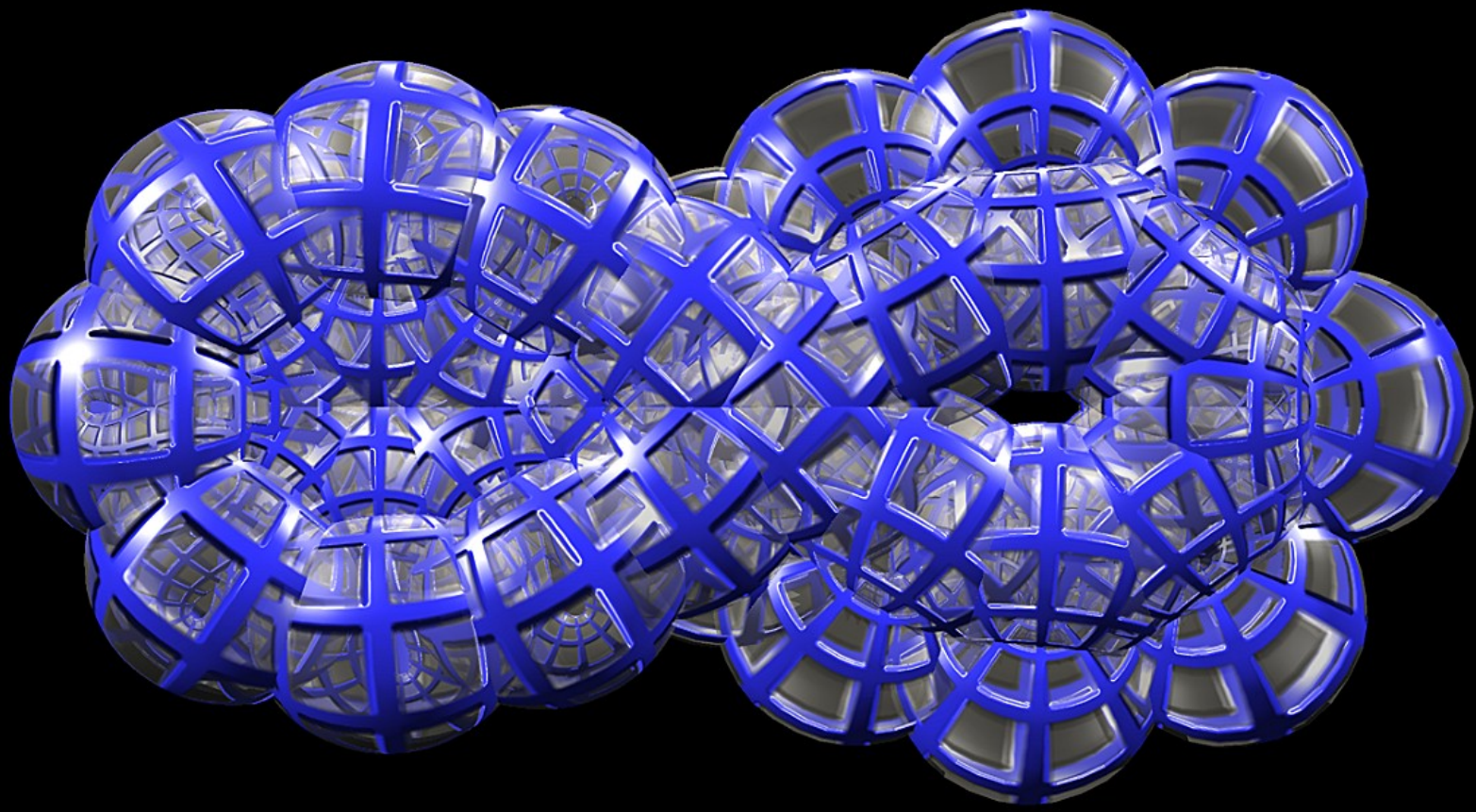
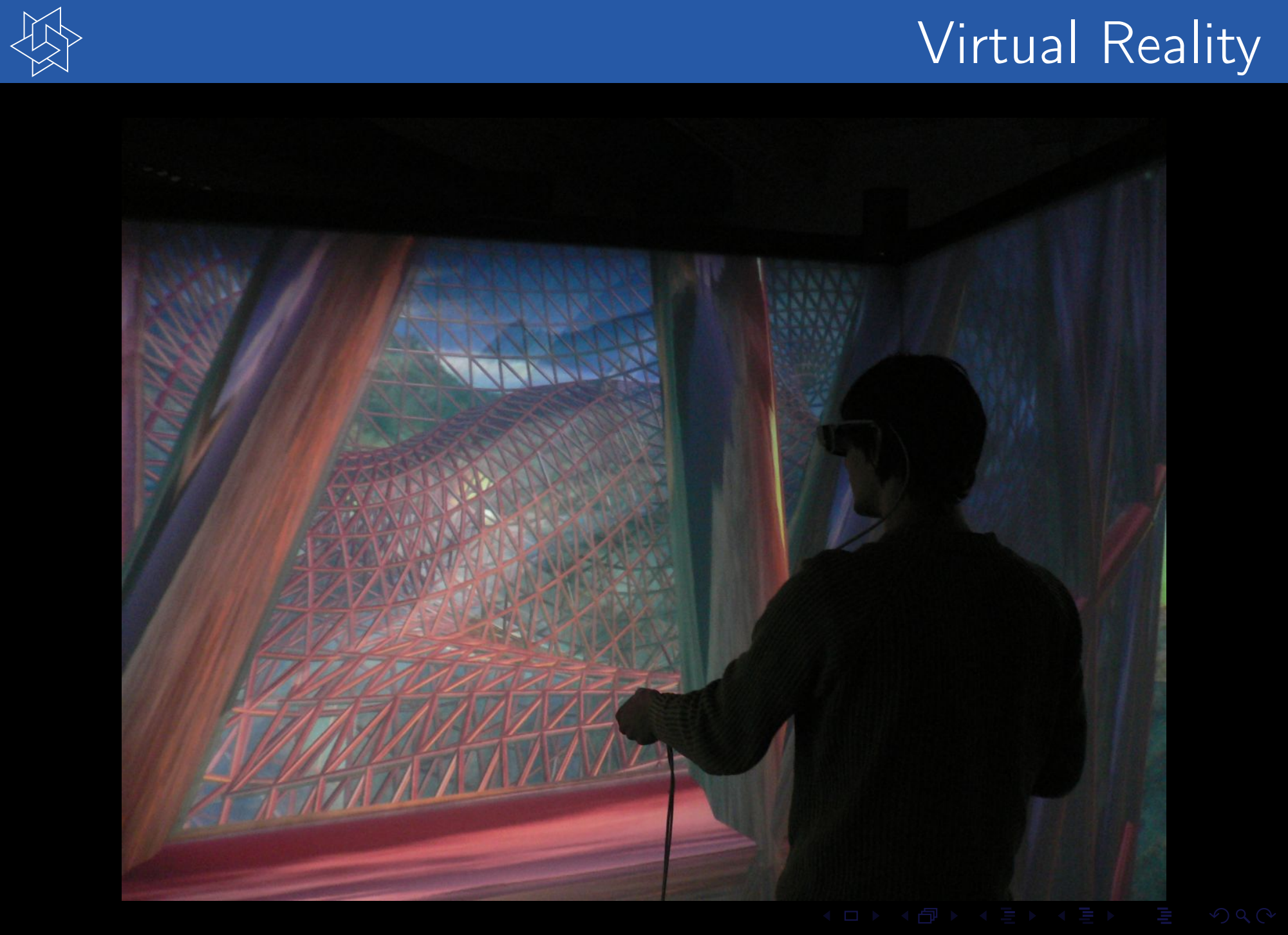
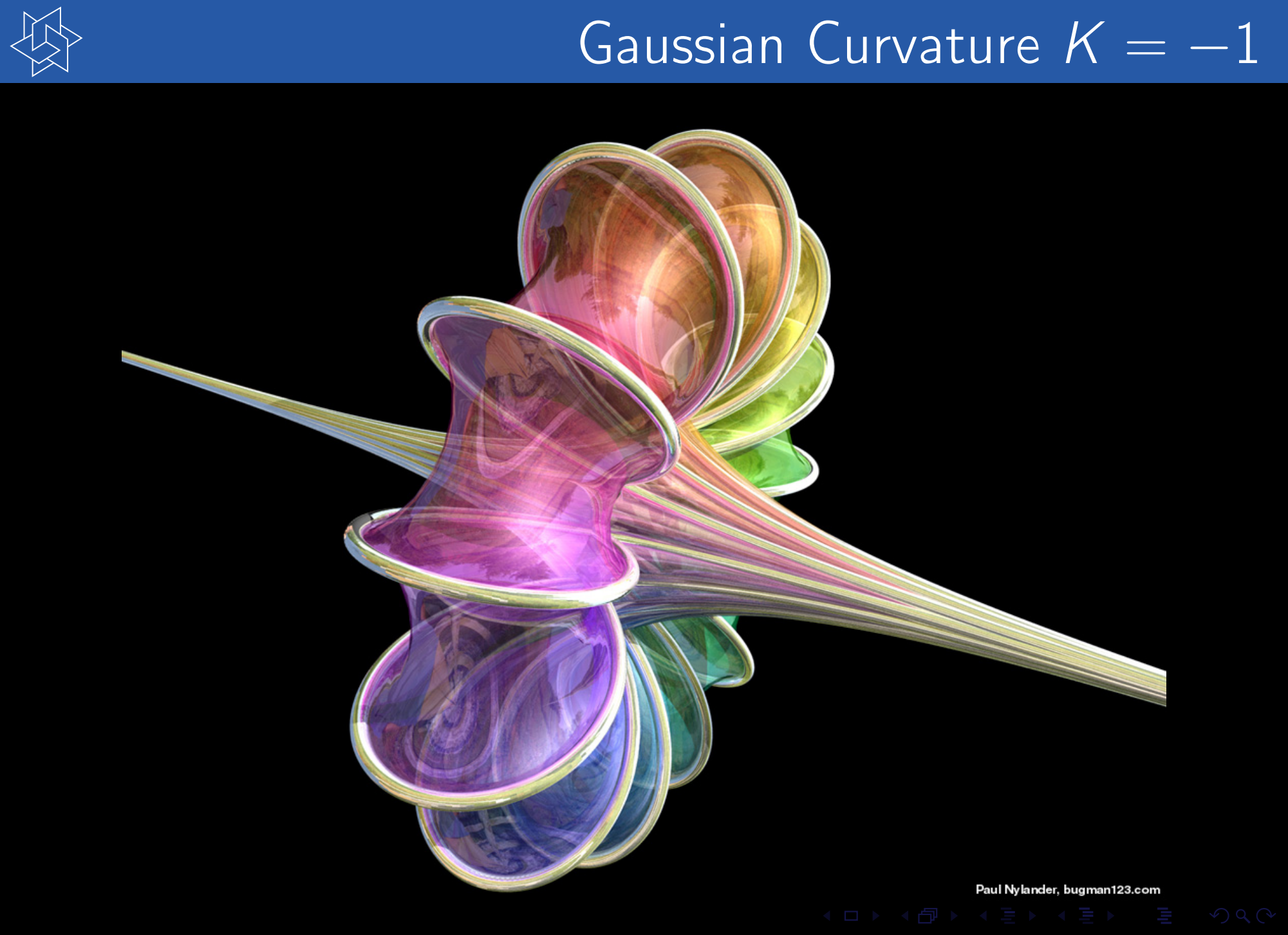




Virtual Reality



Gaussian Curvature $K = -1$

Paul Nylander, bugman123.com

Gaussian Curvature $K = -1$