

TN1008

Advanced Simulation and Visualization of Fluids in Computer Graphics

Divergence-Free Smoothed Particle Hydrodynamics

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Abstract—

Index Terms—Divergence-free, SPH, divergence correction, density correction.



1 INTRODUCTION

2 BACKGROUND AND RELATED WORK

Based on [1]

3 METHOD

3.1 Neighbourhood search

3.2 Divergence solver

3.3 Density solver

3.4 Kernel

3.5 Navier-stokes

3.6 Adapted time step

3.7 Density and alpha factors

4 IMPLEMENTATION

5 RESULTS

6 CONCLUSIONS AND FUTURE WORK

REFERENCES

- [1] J. Bender and D. Koschier. Divergence-free smoothed particle hydrodynamics. In *Proceedings of the 14th ACM SIGGRAPH/Eurographics Symposium on Computer Animation*, pages 147–155. ACM, 2015.