

# **SPH simulation of 2D free surface flow using a new density correction method**

**Hyun-Duk Seo, Hyung-Jun Park and Phill-Seung Lee\***

\* Department of Mechanical Engineering, Korea Advanced Institute of Science and Technology, 291 Daehak-ro, Yuseong-gu, Daejeon 34141, Republic of Korea

e-mail: dukdukseo@gmail.com; hjpark89@kaist.ac.kr; phillseung@kaist.edu,  
web page: <http://cmss.kaist.ac.kr>

## **ABSTRACT**

In this presentation, a new density correction method is presented to reduce the errors of density values in smoothed particle hydrodynamics (SPH). The proposed method corrects the density values of particles and reduces the unphysical density variations induced by inconsistency, which is one of the inherent problems in SPH. For the correction, interpolation field is employed and applied to each particle. The proposed method significantly reduces the unphysical density oscillations and make the solution accurate without additional computational cost. To verify the proposed method, various types of flow are tested including hydrostatic problem and violent free surface flows.

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