## **Accepted Manuscript**

Settling behavior of two particles with different densities in a vertical channel

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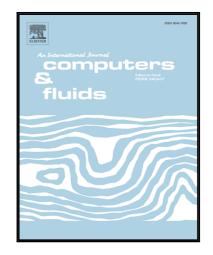
PII: \$0045-7930(17)30267-0

DOI: 10.1016/j.compfluid.2017.07.021

Reference: CAF 3554

To appear in: Computers and Fluids

Received date: 9 March 2017 Revised date: 9 July 2017 Accepted date: 23 July 2017



Please cite this article as: Deming Nie, Jianzhong Lin, Qi Gao, Settling behavior of two particles with different densities in a vertical channel, *Computers and Fluids* (2017), doi: 10.1016/j.compfluid.2017.07.021

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#### ACCEPTED MANUSCRIPT

### Highlights

- We present simulations of two particles settling in a channel with different densities.
- The staggered steady state of particles is studied in detail.
- Two kinds of periodic states are observed according to the Reynolds number *Re*.
- The amplitude of periodic oscillation decreases as particle density difference increases for small *Re*, while the opposite is true for large *Re*.



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