













## Acknowledgement

This work was supported by JSPS Grant-in-Aid for Scientific Research (B) 26282106.

## REFERENCES

- Aly A.M., Asai M., Sonoda. Y., (2011), "Simulation of free falling rigid body into water by a stabilized incompressible SPH method. *Ocean Systems Engineering, An international journal*, **1(3)**: 207-222.
- Aly A.M., Asai M., Sonoda. Y. (2013), "Modelling of surface tension force for free surface flows in ISPH method," *International Journal of Numerical Methods for Heat & Fluid Flow*, **23(3)**: 479–498.
- Asakura, R., Iwase, K., Ikeya, T., Takao, M., Kaneto, K., Fujii, N., and Omori, M., (2000), "An Experimental Study on Wave Force Acting on On-Shore Structures Due to Overflowing Tsunamis," *Proceeding of costal engineering*, Vol.47, pp.911-915
- Asai, M., Aly, Abdelraheem M., Sonoda, Y., and Sakai, Y., (2012), "A stabilized incompressible SPH method by relaxing the density invariance condition," *Journal of Applied Mathematics*, Vol. 2012, Article ID 139583.
- Asai, M., Fujimoto, K., Tanabe, S., and Beppu, M., (2013), "Slip and No-Slip Boundary Treatment for Particle Simulation Model with Incompatible Step-Shaped Boundaries by Using a Virtual Marker," *Transactions of JSCES*, Paper No.20130011
- Cummins S.J. and Rudman. M. (1999), "An SPH Projection Method," *Journal Computational Physics*, **152** (2): 584–607.
- Gingold R.A., Monaghan J.J. (1977), "Smoothed particle hydrodynamics: theory and application to non-spherical stars," *Mon Not R Astron Soc*, **181**: 375–89.
- Lucy L.B. (1977), "Numerical approach to the testing of the fusion process," *Astron J.*; **88**: 1013–1024.
- Monaghan J.J. (1992), "Smoothed particle hydrodynamics," *Ann Rev Astron Astrophys.* **30**, 543–574.
- National Institute for Land and Infrastructure Management Ministry of Land, Infrastructure, Transport and Tourism, Japan, (2012), "Practical Guide on Requirement for Structural Design of Tsunami Evacuation Buildings," TECHNICAL NOTE, National Institute for Land and Infrastructure Management, No.673, March 2012
- Tanabe, S., Asai, M., Nakano, H., Izuno, K., (2014), "Evaluation of fluid force acted on a bridge girder during Tsunami by using a particle method and its validation," *Journal of structural engineering*, Vol.60A, March 2014