Experimental modeling of sloshing at small-scale
Relevance at full-scale through analysis of the physics of impacts

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Propositions

P1. Sloshing impacts that hit the containment system can be studied in a more clever way if grouped into the impact IDs,

P2. Mixing the results of several sloshing model tests together would mean that too much information about the individual impacts is lost. Considering the impact IDs alternatively would avoid this,

P3. Statistics should not be abused when less effort is made in order to understand the underlying physical phenomena,

P4. Measurement and simulation without observation is blind,

P5. An interesting research project would begin with a full-scale measurement campaign and the corresponding model test followed by post-processing based on the notion of impact coincidence and impact IDs,

P6. Sloshing load of any impact ID is not a single value, it is a distribution,

P7. There is a physical limit for the severity of sloshing loads on the containment system of any LNG carrier. The loads could not go beyond those limits. The focus of the future studies may be on determining such limits with higher accuracy given the geometries, fill-levels and the encountered sea states, speeds and headings,

P8. Focusing on the dominant impacts would help predict the ultimate sloshing loads more accurately rather than relying on extrapolations of the results from a few model tests. Instead of fitting distributions to determine sloshing loads with large return periods, those loads can be estimated directly thanks to the notion of dominant impacts and singularization,

P9. Life is one of those experiments that can be done only once,

P10. As Persians say,

> Ah! my Beloved, fill the cup that clears
> To-day of past regrets and future fears
> To-morrow?–Why, To-morrow I may be
> Myself with yesterday's sev'n thousand years [5]

[5] From The Rubáiyát of O. Khayyám (1048-1131 CE) Persian mathematician, astronomer and poet. Translation from Persian by Edward FitzGerald (1809-1883)