Software package for laboratory experiments with surface and internal waves

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A software package was developed for communication with the hardware of the 7-meter long wave flume of the Nizhny Novgorod State Technical University n.a. R.E. Alekseev (http://lmnad.nntu.ru/en/projects/Wave%20tank/), as well as for the collection and processing of data of the wave characteristics during the experiments, both with surface waves and with internal waves in two- and three-layer stratified fluids. This software complex allows to control the filling system of wave flume, set the modes of movement of wave generators of two types (the hinged paddle and vertical gate), and also processses the signals of two sensor systems (string waveme-ters and bottom pressure sensors). The software is based on cross-platform Qt library, the implementation of the code was performed in a high-level C ++ language, Unit testing was performed on the basis of the QTest system.