



## **Testing the performance of LISST\_SL - restrictions and errors**

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Hydromorphology and sediment as drivers and influencing effects for river ecology are getting more and more into the focus of science and management. To be able to get a deeper understanding of such processes we must be able to measure the relevant parameters correctly with a sufficient accuracy. We also need to know about limitations and potential errors of the different devices.

The suspended load in a river can influence both, the hydromorphology in a river but also the biota, directly and indirectly. To be able to determine the effects and the total loads of such suspended particles it is important to measure the concentration but also the size of the particles. For such procedures the LISST-SL (Sequoia) can be used. LISST-SL is a field management device collecting information directly in the river based on the technique of laser diffraction analysis.

To be able to estimate the quality of the results of such measurements we conducted a study in the laboratory investigating the dependency of the quality of the results on the temperature of the water on the background data as well as the accuracy of the defined particle sizes and concentrations as a result of these basic inputs.

The experiments show a dependency especially for lower temperatures and mainly while temperature is increasing. Further the experiments indicate that not all size classes of the particle size evaluation are influenced in the same way. This effects the results for particle size distribution and concentration given by the device in a way which is not easily predictable.