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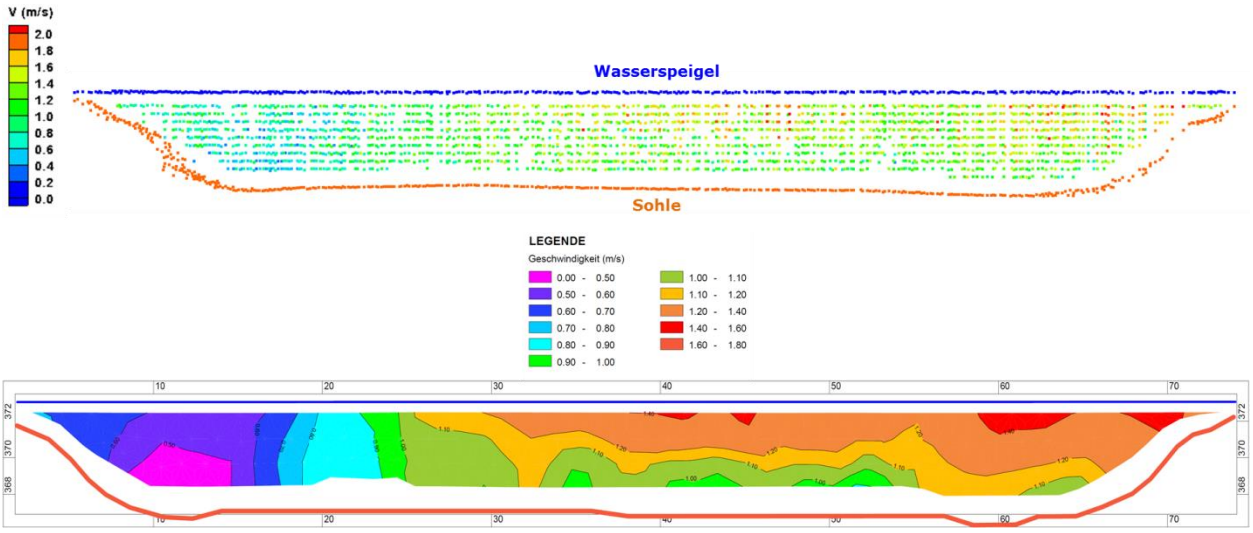
Interpolation of the ADCP measurements in cross sections of a river in Canton Aargau



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In order to analyse the river flow condition or to determine the discharge for a certain level, the velocities are measured in different points of a river cross section. The measurements are carried out either by a conventional method, such as current meter, or with a new method like ADCP. These measured values do not directly reflect clear velocity pattern of the river flow. For this reason, measurements are interpolated on a fine grid of the cross section by using an appropriate method and then after the velocity contours can be derived for distinct zones.

The ADCP measurements with approximately 18,000 points for each cross-section have been carried out for a river in canton Aargau in Switzerland. At the first step the measurements are sorted and an average value is calculated for very closely related points by means of a self-developed code. These values are then interpolated on a fine grid, which is fitted on the cross section. The results can be illustrated as distinct contours and velocity zone, which can be used for hydraulic and environmental purposes.