DIEX-Flow
Evolve River Discharge Measurement

Ver.2.0
2015/9/1
Release!

Software based on DIEX method for river velocity inter/extrapolation & river discharge

Convert "Point" & "Line" velocity data to "Cross-sectional" velocity data

Point or Line velocity measured by velocimeter is interpolated and extrapolated over a cross-section with the proper physical background by using DIEX (Dynamic Interpolation and Extrapolation) method.

"Point" or "Line" velocity data at everywhere

"Point" or "Line" velocity observed in field

"Cross-sectional" velocity with the proper physical background
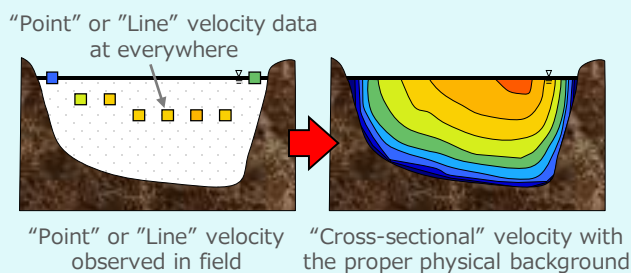
High accuracy

According to the precise verification using ADCP, evaluation error of discharge is less than 5% on average.

Applicable conditions

DIEX method, which interpolate and extrapolate the velocity based on the dynamics balance in the cross-section, can calculate discharge with high accuracy even if the missing occurrs, or river bed shape is complicated.

Extensible

DIEX-Flow does not matter the type of velocimeter.

Reference
· Nihei, Y.& Kimizu, A. : A new monitoring system for river discharge with H-ADCP measurements and river-flow simulation, *Water Resour. Res.*, 44(2008) W00D20,doi:10.1029/2008WR006970.

DIEX-Flow ver.2.0 for all "Point" & "Line" velocimeters

DIEX-Flow ver.1.0 was only applicable to surface velocity data.
Now, in order to expand the scope and application, DIEX-Flow ver.2.0 supports all point & line velocity data at everywhere.

STIV

Radio current meter

Float

Price current meter

Major applicable velocimeters with DIEX-Flow ver.2.0
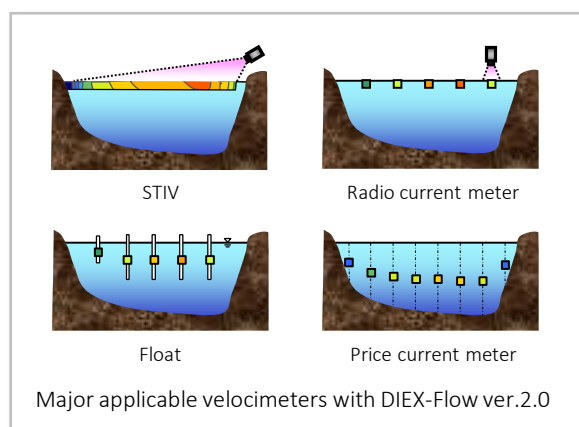
Smoothly – input, analysis, and display the results

Input file creation

DIEX-Flow support you to create input files.
Input data will be visualized, and it is easy to confirm the observation data & setting status.

Calculation

Start calculation for velocity inter/extrapolation and discharge.

Display the results

DIEX-Flow visualize automatically
- Cross-sectional velocity distribution
- Lateral profile of depth-averaged velocity
- Time series of discharge

Check the lateral profile of observed velocity

Visualize the spatial distribution of the various observed values and calculation settings

- Visualize input data
- Error check   etc…

Check the lateral profile of calculated velocity

Depth-averaged velocity evaluated by DIEX method

Obs.

Visualize the cross-sectional velocity

- Cross-sectional velocity distribution
- Lateral profile of depth-averaged velocity
- Time series of discharge   etc…
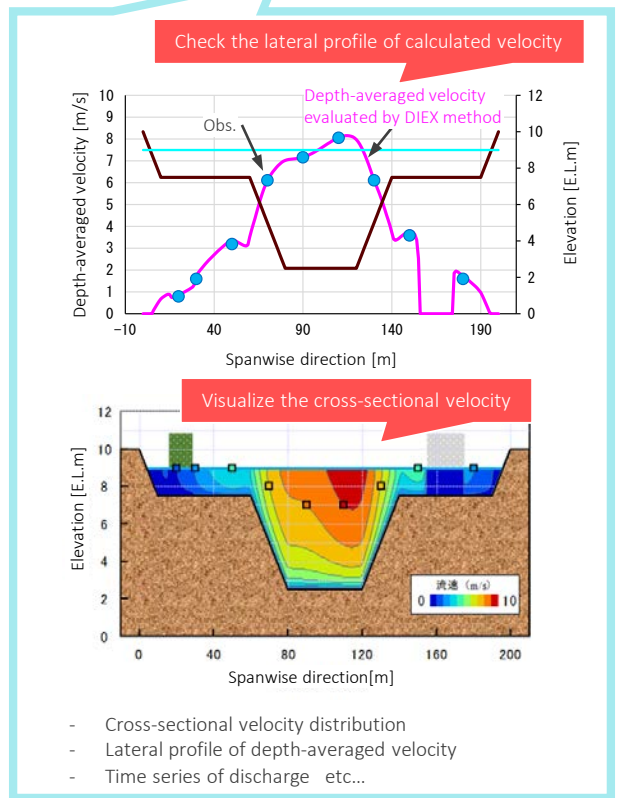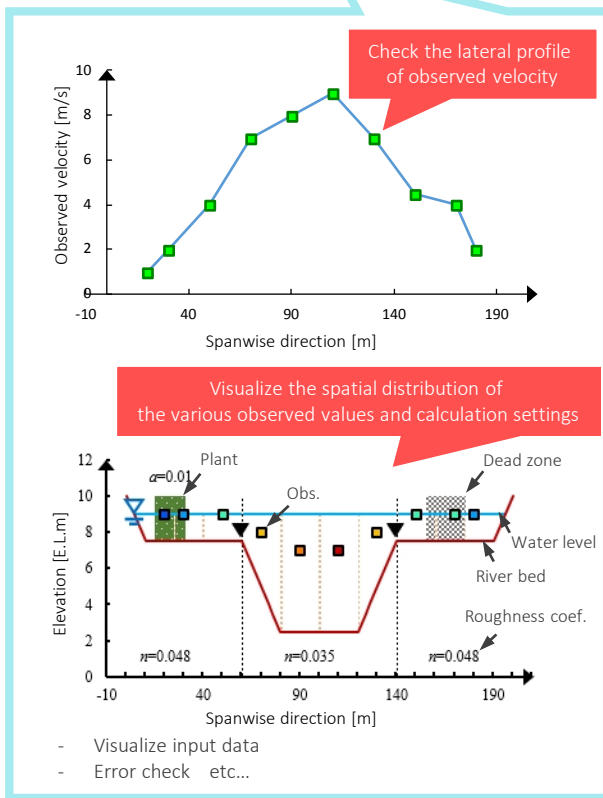
Operating environment

PC	Windows7/8/8.1 installed Microsoft office2010 or more	Interface	USB port
CPU	1GHz or more	RAM	2GB or more
Disk space	600MB or more	Screen resolution	1024×576 or more
Language	Japanese only		

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