

Future in Ultrasound Doppler Flow Measurements

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1. NEWS FOR A COMMUNITY

1.1 A long waited **book** will appear in September 2012. The book is entitled "Ultrasonic Doppler Velocity Profiler for Fluid Flow" and published by Springer Verlag, ca. 350 pages with lots of figures and tables. This is a crystalized work of all community members and shall be used as a textbook for new users and as reference book for the current users.

1.2 **Condolence** - Mr. G.Gogniat passed away on 19. April 2012 in Vevey, Switzerland. He was a founder of Met-Flow S.A. and had been a strong promoter of the method and a supporter for the ISUD meetings. It is a great regret of us that he passed away. Continuing effort for promotion of the method and contribution to the fluid mechanic science will only be the way to show our gratitude to him.

1.3 The Fluid Engineering division of the JSME **awarded** me for recognition of the UVP method as a novel measurement method for fluid flow. This implies all the effort made by our community is recognized to have experienced a great deal of contribution to the science and technology of fluid mechanics. We shall be proud of this recognition and are encouraged for future work.

2. NEWS ON ACTIVITY

I presented in the earlier meeting a diagram which shows expansion of applied flow fields. Recent improvement of methodology and algorithms have been worked by some of our members as if it widens its application fields. A few examples will be introduced.

2.1 Low Velocity detection – For boundary layer measurement, it was needed to develop a new way of signal processing and an algorithm for a flow field where velocity is in the order of or less than 1mm/s. This was worked out by TIT group and presented in detail in the meeting. This may open up new application targets in various engineering fields.

2.2 Environmental flow – A device specially developed for environmental flow has been launched in the market by a company UBERTONE.

The device is robust in its use in natural environment such as rivers, channels and lakes, which is adequate for use out of the laboratory.

2.3 OpenUVP is a platform where all related topics and information is going to be shared, for instance, in the form of forum, software exchanging station, exchanging experiences etc.

3. NEW IDEAS for RESEARCH

When I overview a general trends of scientific and technological problems and their solutions, it is really an important task to obtain information on the flow field in spatio-temporal manner. Especially after the natural and man-made disaster by the Eastern Japan Earthquake 2011, its importance shall be re-recognized. Using a capability of obtaining spatio-temporal flow field in quantity, I see a huge variety of new applications in fluid flow measurement. These possible research topics will be opened for young researchers.