Geophysical Research Abstracts,
Vol. 10, EGU2008-A-01939, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-01939
EGU General Assembly 2008

Use of a side-looking Doppler velocity (flow) meter for measuring discharge on the Parana' river for inflow to Itaipu hydroelectric reservoir, Brasil

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The Itaipu Binacional Hydroelectric Power plant is the greatest in the world in energy production, and the forecast of Itaipu reservoir inflow is extremely important.

This forecast will be used to known the exactly amount of energy to be generated.

The precise total of energy produced is vital for the countries of Brazil and Paraguay, his owners, since provide 25% and 80 % of the total energy of this countries, respectively .

The Parana river above reservoir is a intricate islands channels and in some places traditional methods to produce discharge from observed level is not precise enough, a different method with more capacity to improve the accuracy of the forecast is needed.

With the crescent use of Doppler meters and with his capacity to give flow measuring water velocity in a portion of the cross section was the best suited here.

In this case utilized a Doppler static equipment(Argonaut-Side Looking) mounted in one of the river banks measuring water velocity in a portion of the cross section and correlating this velocities with cross section mean velocity obtained from discharge measurements with an ADCP (Acoustic Doppler Current Profiler) mounted in a boat crossing the river (Index- Velocity method)

This report show this experience in Itaipu with this device in one of his most important gauge station from his hydrological network for control and forecast.

Despite the use of this devices is commonly find in rivers or channels with width no more then 150 meters, here is used in a river with more then 800 meters wide with success.