



## **Determination of Spatial Orientation of Sounding Vessel Using Floating Core Fluxgate**

A. Makar

Institute of Navigation and Hydrography, Polish Naval Academy, Gdynia, Poland (Artur.Makar@amw.gdynia.pl)

Determination of spatial orientation of sounding vessel is an essential problem from determination of acoustic wave reflection points in geodesic bathymetric surveys radiated by an echosounder point of view. Pitching, rolling and yawing as a result of wind, wavy motion and vessel movement determine the outlet angle of acoustic wave, trajectory of acoustic ray as a result of refraction, location of reflection point and determined depth on the basis of the distance between the transducer and reflection point measured by the echosounder.

In the paper possibilities analyse of floating core fluxgate's application for determination of spatial orientation of sounding vessel have been presented. Compensation of pitching and rolling have only been presented because of sensor limitation.