

Method and Apparatus for Measuring Attitude

ABSTRACT

The invention relates to a method and apparatus for sensing attitude in relation to navigation systems and the like. In one form, the invention relates to a method and apparatus providing a combination of gyroscopic and magnetometric measurement for attitude sensing. In particular the invention provides a method and apparatus for determining an estimate of attitude with respect to a fixed reference frame, the method comprising the steps of:

generating angle estimates from measurements of a gyroscopic sensor means;

calculating a heading estimate from data comprising measurements of a magnetic sensor means and the pitch and roll estimates generated by the gyroscopic sensor means, and;

estimating signal parameters of the generated angle estimates from data comprising the difference of the calculated heading estimate based on magnetic sensor means and the heading estimate generated by the gyroscopic sensor means, and the difference of the estimate of the vertical magnetic field intensity based on the magnetic sensor means and the estimated true vertical magnetic field intensity.

Figure 1 accompanies the abstract.