



Algorithm Comparison for Strapdown Airborne Gravimetry

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Strapdown airborne gravimetry system has many advantages over platform system, such as small size, light weight and low power dissipation. Lots of progresses in the development of the strapdown airborne scalar gravimeter are achieved over the last decade. The paper gives two algorithm models for strapdown airborne gravimetry firstly, namely the models of strapdown inertial scalar gravimetry (SISG) and rotation invariant scalar gravimetry (RISG). The two models are compared by using the test data of the first our own strapdown airborne scalar gravimeter (SGA-WZ01) in the sea area. The results show that the agreement of the two models is better than 0.5mGal for a filter amount of 200s. The internal accuracy of above two models is also compared by using two pair of repeat lines data, which indicates that the SISG method is a little better than the RISG method. The internal accuracy of SISG method are 6.09mGal, 1.06mGal and 0.80mGal for the filter length of 100s, 200s and 300s respectively.