

عنوان مقاله:

Investigation and Evaluation of Low Cost Depth Sensor System Using Pressure Sensor for Unmanned Underwater Vehicle

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خلاصه مقاله:

This paper presents the investigation and evaluation of low cost depth sensor system design for unmanned underwater vehicle (UUV) using pressure sensor. Two types of low cost pressure sensor system design are proposed for underwater vehicle. The pressure sensors are expected to prevent buckling or damaging to the UUV. The first design uses barometric pressure sensor, while the second design uses MPXAP which is an integrated silicon pressure sensor on-chip signal conditioned and temperature compensated. There are two different sub model of MPXAP put forward in this research namely, MPX۴۲۵۰AP and MPX۵۷۰۰AP. These pressure sensors are tested in three different conditions: in water tank, lake and swimming pool to study their effect on various densities. Details of the designs are discussed and implementations of these sensors on UUV are analyzed. Experimental results showed these pressure sensors have different performances. Based on the analysis of the results, MPX AP sensor is more suitable to be applied to UUV with low cost budget. For the depth from ۰ to ۳۰ meter, MPX ۴۲۵۰ AP is selected while MPX ۵۷۰۰ AP is .for the range of depth up to ۷۰ meter

کلمات کلیدی:

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