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The Experiment of Indoor Automatic Navigation of Drone

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Abstract. The goal of this project is to develop the drone which will fly around in the smart warehouse to check the stored items. Because of the GPS denied condition in warehouse, then this paper is the approach of using an ultrasonic beacon system from Marvelmind robotics instead of the GPS. The linear estimation of position data and the wall collision avoidance control were also introduced. The results of flight test showed that this proposed method could control the drone to a decided position with settling error within 0.5 m.

Keywords: UAV, multirotor, drone, indoor positioning