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## **Lane Tracking for Autonomous Electric Vehicle**

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**Abstract.** Due to the latest technology, the interest in the Intelligent Transportation System (ITS) is increasing rapidly in the global world by develop the autonomous driving system in the vehicle. An autonomous vehicle is a vehicle that can guide itself without human assistance by implementation of the advanced driver assistance systems (ADAS). These systems are developed to adapt to the environment and enhance the car systems for better and safety driving. The purpose of this project is to develop lane tracking system based on applying the concept of magnetic flux density for the autonomous electric vehicle by implementing the Hall Effect Sensor. Then, based on the analysis of the Hall effect sensor, it shows that the selection of the sensor and type of magnet to apply it in the road marking system is very important to avoid the vehicle skidded out of the road lane.

**Keywords:** Autonomous Driving System, Magnetic Flux Density, Lane Tracking System, Hall Effects Sensor