

## POSITIONING AND TRACING SYSTEM STUDY OF ALL TERRAIN FOREST FIRE PATROLLING AND FIGHTING VEHICLE

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### ABSTRACT

All terrain vehicles (ATV) is a non-road vehicle which has the performance such as mass low, operation flexible, stridden and so on. This vehicle also has fire extinguishing equipment, could patrol at forest area, and then could find fire and fighting.

As our country's virgin has no people, and invisibility is bad. When fire happens, the ATV will influence the fire fighting efficiency, so judge position is difficult. Therefore, the ability of GPS for ATV is necessary. Using GPS and wireless network for fire location and arrange robot could get high precision and safety, and could detect position and range timely and quickly. This could provide fire basis for interrelated department. The fire sensor will sense when the fire occurs and then the vehicle will be controlled from the control section via Zigbee transceiver. The GPS value will be transmitted to the control section via Zigbee to intimate the location of the fire accident. The user has to control the water tank in the vehicle via Zigbee to clear the fire. Here we are using an ARM7 (LPC2148) microcontroller with camera that captures images and sends it to the controller.

**KEYWORDS:** ATV, Fire-Fighting, Camera, GPS, All Terrain

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