



Design of wireless control system for crop precision irrigation

Juan Tang^{a,b}, Zhinan Zhou^c, Lihua Li^{a,b}, Limin Shao^{a,*}

^aCollege of Mechanical and Electrical Engineering, Hebei Agricultural University, Baoding, China, email: shaolm@126.com (L. Shao)

^bKey Laboratory of Broiler Chicken Breeding Facilities, Ministry of Agriculture, Baoding, China

^cModern Education and Technology Center, Hebei Agricultural University, Baoding, China

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ABSTRACT

In order to improve the utilization rate of agricultural irrigation water, the precision irrigation system based on Internet of things is applied into farmland. Sensor technology, computer technology, wireless communication, and the Internet are combined through the Internet and sensors. Using the Internet of things technology, the control system based on the Internet of things and the networking is established to provide remote farmland irrigation information monitoring and control services for users. Taking ZigBee as the core to build system, the moisture sensor is used for real-time monitoring and automatic irrigation of the farmland based on the soil moisture content. In system design, serial port is taken as the main channel for information exchange between ZigBee chip and single chip microcontroller (SCM) development board. The SCM processor connects the information to the Internet, and users can check the information collected by the system through the Internet and realize remote control. The experiment shows that the system can reduce the cost of agricultural production and realize remote precision irrigation.

Keywords: Precision irrigation; SCM; ZigBee; Sensors; Soil moisture; Farmland

* Corresponding author.

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