PATENT

AN AUTOMATED IRRIGATION SYSTEM BASED ON CROP WATER REQUIREMENT (AISCR) AND ITS METHOD THEREOF

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AISCR is an IoT based automated system and method for irrigation of field based on crop water requirement. AISCR facilitates a deep learning based hourly forecast of crop reference evapotranspiration, calculation of threshold value for irrigation control, and real time monitoring of the agricultural field for minimizing time and efforts of farmers.

Highlights:

- Implements of an automated irrigation process, which is scheduled as per the water need of plants or crop water requirement
- Devises a new calculation method to set the irrigation triggering and stopping points
- Proposes an hourly forecasting of crop evapotranspiration using deep learning time series forecasting techniques
- Utilizes the data of nearby weather stations
- Utilizes only two sensors- soil moisture and rain sensors
- Devices a mobile phone app that enables the user to interact with the system by supplying the field and crop inputs and to initiate the system either by manual mode or automated mode
- Proposes a validation module for the developed forecasting model using the weather station data intermittently