

DEVELOPMENT OF AN AUTOMATED SYSTEM FOR MONITORING THE CURRENT STATE OF GROUNDWATER

Sh.R. Ubaydullaeva - c.t.s., associate professor, A.M. Nigmatov - assistant
Tashkent Institute of Irrigation and Agricultural Mechanization Engineers

DEVELOPMENT OF AN AUTOMATED SYSTEM FOR
MONITORING THE CURRENT STATE OF GROUNDWATER

Sh.R. Ubaydullaeva - c.t.s., associate professor, A.M. Nigmatov - assistant
Tashkent Institute of Irrigation and Agricultural Mechanization Engineers

Abstract

The article discusses the issues of control, accounting for the rational use of groundwater and methods for measuring

the water level in the well. It is proposed to measure the water level using radio waves. This method can be used in difficult

conditions, in particular at high pressure, at high temperatures without direct contact with the measured object. The problems

of monitoring the groundwater level and analyzing the state of measurement are considered.

Recommendations are given on

instrumentation for level control, the creation and implementation of an automated observation system and an integrated

analysis system using a remote data transmission module via GSM. A program for monitoring the water level in a well has

been developed on the Arduino platform. A functional and structural diagram of an automated system for monitoring the state

of groundwater has been developed and technical means of automation have been selected. The selected radio module type

MX-RM-5V (433MNz), which transmits information in real time. Certificate (patent) No. DGU 117 24 dated May 19, 2021 was

received for the development of the software "Groundwater level measurement method"

Key words: groundwater monitoring, radar level gauge, data transmission via GSM, spectral analysis.

[Read full of text](#)