

## Third Laureate Applied Research

26<sup>th</sup> Khwarizmi International Award (KIA)



- **Project Title:** Design and Production of Digital RadioSonde System (DigiSonde)
- **Executive Organizations:** Iranian Research Organization for Science & Technology (IROST) and I.R. of Iran Meteorological Organization (IRIMO)
- **Researcher:** Shervin Amiri (Ph.D.)
- **Collaborators:** M. Zoljoodi, K.Kaki, M.Rezapour, F.Mirzapoor, A.Bitrafan, H.Akbar

### ● Abstract:

DigiSonde is an upper air observation system for measuring its parameters like pressure, temperature, humidity, dew point, wind speed and wind direction from ground surface up to 30 Km altitude. DigiSonde system is used in meteorological stations at airports every day.

This system has two sections: Ground Section and Ascending Section.

The ground section includes some subsystems like outdoor units (Antenna, RF box, Antenna Positioner, Balloon Tracker, ...) and indoor units (RF Receiver, Antenna Control Unit & DigiMon Software).

Also the ascending section includes some subsystems like RF transmitter, GPS receiver, environmental sensors, spool winch and balloon.

The analysis, design, production and calibration methods of DigiSonde System was done in this project. The field test results of the system in different days and its comparison with foreign system show that DigiSonde system is a suitable candidate for situating in meteorological stations.

