



Practical sounder for wind velocity monitoring in the ecological education

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Modern complicated equipment in geophysical research needs perfectly trained specialists. Lomonosov Moscow State University and Russian Academy of Sciences has organized the training programs for the students aimed to teach them working with a scientific instruments installed in laboratories.

A special attention in these programs is paid to the environmental monitoring including air quality control in big cities. Involvement of geophysics in these tasks is connected with a necessity of understanding of physical principles of signals formation in the measuring and, in particular, remote sensing devices and of connection between registered signals and environment state.

This paper presents the experience of wind field monitoring in the urban boundary layer by acoustic sounder (sodar). Atmosphere Physics Department of MSU Faculty of Physics together with Obukhov Institute of Atmospheric Physics realizes a mutual program of geophysics students training and regular environment monitoring.

Need of not only a qualitative research but also of educational process improvement drove us to the creation of own echo-sounder, based on a standard PC and special but available acoustic and electronic components. The main elements of the developed device will be presented.

An experience of the continuous exploitation of sodar showed its unique reliability, simplicity of repair and upgradeability, openness and suitability for educational purposes. At the same time, a comparison with contact measurement data and with a data of another sodar shows a reliably precision of the measurements to be used in real scientific research.

A few sodars unified in a network by common operating environment can provide a picture of the wind distribution in megalopolis. Two similar sounders have been already installed in Moscow (at the south-west and in the center).

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