

The present invention relates to the meteorology, specifically to the acoustic methods for determining the atmosphere parameters. The proposed method of acoustic air sounding consists in preliminarily analyzing the frequency distribution of the external acoustic interferences, determining the frequency corresponding to the interference minimal intensity, transmitting sounding acoustic oscillations at the said frequency, measuring the parameters of scattered signals, and calculating the atmosphere parameters from the parameters of the scattered signals. The proposed method provides for increasing the sounding distance and measurement accuracy in measuring the atmosphere parameters.