

## Abstract:

The work is devoted to such current problem as gravimetric studies of the Earth for the presence of mineral deposits. To solve the problem, a system of automated intelligent determination of gravimetric information for the search for minerals was developed. The system uses a two-channel capacitive MEMS gravimeter as a sensitive element. There are some advantages of this system, such as: speed of measurement, possibility of work in hard-to-reach regions of the globe, high accuracy due to the use of a new two-channel capacitive MEMS gravimeter by reducing the main errors by using two channels. A method for determining minerals depending on the value of gravity acceleration has been developed. According to engraving, conducted using the proposed automated gravimetric system with elements of artificial intelligence, we can with some probability talk about the presence of minerals such as copper, magnetite, coal, and others. At the same time information processing time is reduced. Further clarification of the depth and size of the mineral deposit requires additional geological and geophysical research, such as the use of remote spectral and structural analysis of minerals with the involvement of satellite exploration.