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## **DETERMINATION OF THE STRESS-STRAIN STATE IN THE SEAMS OF MINE WORKINGS BY TENSOMETRIC METHOD**

Today, there is the problem of controlling the dangerous state of an array of rocks [1]. The materials studied actively form their properties during operation, and the changes that occur have both positive and negative effects on their structure at different scale levels. This necessitates the creation of systems for monitoring their condition in connection with the time of their operation.

The authors presented a measuring complex (Figure 1), used to determine the stress-strain state of cement systems and mine workings, having defects (cracks) in their structure at the micro- and macro-levels. According to the results of the research, an analysis was carried out and a technique was developed to support the defects arising within the structure of natural and artificial conglomerates.



Fig. 1 – Element of measuring complex in experimental sample

The purpose of the proposed method is to increase the reliability of determining the residual life of the materials under study by the methods of acoustic emission and tensometry. According to the hypothesis [2], the combination of these methods will allow with high confidence to control the areas of elastic deformations of natural and artificial conglomerates, to determine the critical point, thereby avoiding the accumulation of plastic deformations. This technique will further prevent the progressive destruction of concrete structures, to determine the boundaries of the alleged fracture or collapse of rock.

### REFERENCES:

1. Averin A, Blokhin D 2012 Mining information and analytical bulletin (scientific and technical journal) pp 46-49
2. Shabanov D, Yagubkin A, Trambitsky E 2018 Bulletin of Polotsk State University. Series F. Construction. Applied sciences (№16) pp 62-66