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**MEETING
PAPER**



**Vertical and Horizontal Stress Change in
Rock Salt around Rooms Made by Controlled
Salt Solution in the "Tušanj" Salt Mine - Tuzla**

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SUMMARY

The paper gives the methodology of stress components measuring in the inter-room pillar by means of pressure cells. Based on their orientation, it is possible to obtain stress state in the salt rock around soluted rooms.

The calculated values of vertical and horizontal stress in the initial phase of exploitation are lower than calculated ones, and in the final phase the measured stress values are higher.

INTRODUCTION

By controlled salt solution by boreholes cylindrical rooms of enormous dimensions are formed causing new distribution of stress in salt rocks. Designers are faced with a problem of dimensions of rooms, inter-room pillars and protection roof layers as a function of bed utilization and allowed rock deformation. Related to that, designers seek to design as big room diameters as possible as well as protection roof layers what is in conflict with limited strength of rock salt as geotechnical material.

Having in mind the fact that permanent stability of inter-room pillars and protection roof layers has to be provided by unusable reserves, optimal dimensioning of rooms, inter-rooms pillars and protection roof layers becomes an economic category, too.

Laboratory obtained mechanical-deformational features depend on number of natural and artificial factors and they are often not possible to be taken into consideration. Therefore, laboratory data are more or less close to the reality.

Contemporary research on geomechanical rock features are being done "in-situ" as they are adapted to actual technologic-technical solutions of exploitation. The advantage of the research is the fact that rocks as actual environment are being tested with all influential factors (anisotropy, inner tectonics, occurrence of adjacent underground rooms, rooms filled with brine etc.) that are not possible to be taken into consideration.