# Article information:

Inversion Method of In-situ Stress and Rock Damage Characteristics in Dam Site Using Neural Network and Numerical Simulation—A Case Study | IEEE Journals & Magazine | IEEE Xplore  
<https://ieeexplore.ieee.org/abstract/document/9026983>

# Article summary:

1. This paper investigates the relationship between measured in-situ stress data and numerical calculation by means of neural network.

2. The research shows that the scheme of combining actual measurement, numerical analysis and neural network inversion is reliable.

3. Depth is an important factor affecting the maximum horizontal stress value in Xiluodu area.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

This article provides a comprehensive overview of the relationship between measured in-situ stress data and numerical calculation by means of neural network, as well as its application to analyze the distribution characteristics of large-scale in-situ stress and the failure of regional geological bodies under the action of in-situ stress in Xiluodu area. The article presents a detailed analysis of the geological conditions and measured data from Xiluodu area, as well as a discussion on how genetic algorithm-BP artificial neural networks (G-P) method can be used to train these data. Furthermore, it also provides an insight into how numerical simulation technology can be used to analyze three-dimensional in-situ stress field distribution characteristics.

The article appears to be reliable and trustworthy overall, with no obvious biases or unsupported claims present. It provides a comprehensive overview of its topic, exploring both theoretical aspects as well as practical applications through case studies from Xiluodu area. The authors have provided sufficient evidence for their claims made throughout the article, such as citing relevant literature sources and providing detailed descriptions on their methods used for analysis. Furthermore, they have also explored potential counterarguments to their findings, such as noting that depth has different impacts on different levels of in-situ stress values.

In conclusion, this article appears to be reliable and trustworthy overall with no obvious biases or unsupported claims present.

# Topics for further research:

* In-situ stress analysis
* Three-dimensional in-situ stress field
* Genetic algorithm-BP artificial neural networks
* Geological body failure
* Numerical simulation technology
* Xiluodu area case study

# Report location:

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