# Article information:

Effect of natural defects on the fracture behaviors and failure mechanism of basalt through mesotesting and FDEM modeling - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0013794422003307?via%3Dihub>

# Article summary:

1. The article discusses the effect of natural defects on the fracture behaviors and failure mechanism of basalt through mesotesting and FDEM modeling.

2. It explores the failure characteristics and fracture evolution laws of hard brittle rocks, which can help reveal the initiating mechanism, accurately guide warning and forecast, and effectively coordinate the prevention and control of high-stress disasters.

3. Extensive research has been conducted on the mechanical properties of hard brittle rocks, including laboratory tests, computer simulations, and field observations.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article “Effect of Natural Defects on the Fracture Behaviors and Failure Mechanism of Basalt Through Mesotesting and FDEM Modeling” is a comprehensive overview of current research into the effects of natural defects on basalt fracture behavior. The article is well-written with clear explanations that are easy to understand. The authors provide a thorough review of existing literature in this area as well as their own research findings. The authors also present their conclusions in an unbiased manner without any promotional content or partiality.

The article does not appear to have any major biases or unsupported claims; however, there are some points that could be further explored or discussed in more detail. For example, while the authors discuss various types of defects (e.g., cracks, beddings, holes), they do not provide any evidence for their claims about how these defects affect fracture behavior or failure mechanisms. Additionally, while they discuss laboratory tests as a way to determine mechanical behaviors of defective rocks, they do not explore other methods such as computer simulations or field observations that could be used to gain further insight into this topic.

In conclusion, this article provides a comprehensive overview of current research into the effects of natural defects on basalt fracture behavior; however, it could benefit from further exploration into other methods for determining mechanical behaviors as well as providing evidence for its claims about how different types of defects affect fracture behavior or failure mechanisms.

# Topics for further research:

* Computer simulations of basalt fracture behavior
* Field observations of basalt fracture behavior
* Mechanical properties of defective rocks
* Effects of cracks on basalt fracture behavior
* Effects of beddings on basalt fracture behavior
* Effects of holes on basalt fracture behavior

# Report location:

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