# Article information:

Failure analysis and deformation mechanism of segmented utility tunnels crossing ground fissure zones with different intersection angles - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S1350630722004307?via%3Dihub>

# Article summary:

1. This study analyzes the failure mode and deformation characteristics of segmented utility tunnels crossing ground fissure zones with different intersection angles.

2. The results show that the segmented utility tunnel presents with the deformation characteristic of three-dimensional movement under the action of the ground fissures.

3. The calculation method of the vertical settlement of the segmented utility tunnel crossing the ground fissure zone is also proposed, providing scientific guidance for constructing utility tunnels within ground fissure development areas.

# 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:

This article provides a comprehensive analysis of the failure mode and deformation characteristics of segmented utility tunnels crossing ground fissure zones with different intersection angles. The authors use Flac 3D software to establish a 3D-FDM calculation model to analyze the influence of intersection angles on deformation and failure characteristics, as well as propose a calculation method for vertical settlement in such cases.

The article is generally reliable and trustworthy, as it provides detailed information on its research methods and results, as well as references to relevant studies in this field. However, there are some potential biases that should be noted. For example, while the authors provide evidence for their claims regarding differential settlement between strata causing ground cracking, they do not explore any counterarguments or alternative explanations for this phenomenon. Additionally, while they discuss possible risks associated with constructing utility tunnels in these areas, they do not present both sides equally or explore any potential benefits that may come from such construction projects.

In conclusion, this article is generally reliable and trustworthy but could benefit from further exploration into counterarguments and potential benefits associated with constructing utility tunnels in these areas.

# Topics for further research:

* Differential settlement between strata
* Ground cracking causes
* Benefits of utility tunnel construction
* Risk assessment for utility tunnels
* Alternative explanations for ground cracking
* Flac 3D software application

# Report location:

<https://www.fullpicture.app/item/8525c8091d7d0ac2727e498fb10724d2>