# Article information:

Study on large deformation and failure mechanism of deep buried stratified slate tunnel and control strategy of high constant resistance anchor cable - ScienceDirect  
<https://www.sciencedirect.com/science/article/abs/pii/S1350630722009207>

# Article summary:

1. The deformation and failure mechanism of deep buried horizontal layered soft rock tunnel is studied through physical model experiment.

2. A new support scheme of long and short high constant resistance anchor cable is proposed to effectively control the deformation of tunnel surrounding rock.

3. Numerical simulation and field test studies are presented to show that the high constant resistance anchor cable coupling support significantly reduces the tensile stress zone, effectively controls the deformation of tunnel surrounding rock, and avoids the damage of supporting structure and the cracking and deformation of the lining.

# 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 “Study on large deformation and failure mechanism of deep buried stratified slate tunnel and control strategy of high constant resistance anchor cable” provides a comprehensive overview on the topic, discussing various aspects such as physical model tests, numerical simulations, high constant resistance anchor cable support technology, etc. The article is well-structured with clear sections for each topic discussed. It also includes relevant figures and tables to illustrate its points.

The article appears to be reliable in terms of its content as it provides detailed information about the research conducted on deep buried stratified slate tunnels, including physical model tests, numerical simulations, etc., which are supported by evidence from experiments or other sources. Furthermore, it presents both sides equally by providing an overview of both positive and negative aspects related to using high constant resistance anchor cables for controlling tunnel deformation.

However, there are some potential biases in the article that should be noted. For example, while it does provide an overview of both positive and negative aspects related to using high constant resistance anchor cables for controlling tunnel deformation, it does not explore any counterarguments or alternative solutions that could be used instead. Additionally, there is no mention of possible risks associated with using this method or any other methods discussed in the article which could lead readers to believe that these methods are risk-free when they may not be so in reality.

In conclusion, while this article appears to be reliable overall due to its detailed information about research conducted on deep buried stratified slate tunnels as well as its balanced presentation of both positive and negative aspects related to using high constant resistance anchor cables for controlling tunnel deformation; there are some potential biases present which should be noted such as lack of exploration into counterarguments or alternative solutions as well as lack of mention regarding possible risks associated with using this method or any other methods discussed in the article which could lead readers to believe that these methods are risk-free when they may not be so in reality.

# Topics for further research:

* Alternative solutions for deep buried stratified slate tunnel deformation
* Risks associated with using high constant resistance anchor cables
* Counterarguments to using high constant resistance anchor cables
* Numerical simulations of deep buried stratified slate tunnels
* Physical model tests of deep buried stratified slate tunnels
* Control strategies for deep buried stratified slate tunnels

# Report location:

<https://www.fullpicture.app/item/7993435a14f53d06858a83271bc37f90>