

Your review report

Manuscript

Shaking Table Tests on the Seismic Performances of Fiber Concrete Lining Tunnel through Inactive Fault

Feedback for the author(s)

Comments to the author(s)

The paper has presented the effectiveness of using reinforced concrete (RC), steel-basalt hybrid fiber reinforced concrete (SBHFRC) and steel fiber reinforced concrete (SFRC) as the lining tunnel under the influence of earthquakes. An experiment with a tunnel model affected by strong earthquakes with different types of lining tunnels (RC, SBHFRC, SFRC) was performed. The analysis of the maximum stress including in the lining tunnel and the safety factors in the lining tunnel under the influence of earthquakes have been investigated and verified. By their results, the authors of the paper have come to a conclusion about the ability of C, SBHFRC, SFRC when making the tunnel's lining under the influence of earthquakes. The paper fits well within the scope of the Journal. However, there are some unclear problems in the manuscript, which need a major revision before it can be published.

Consider my comments for improvement:

- Some writing and grammar problems need to be adjusted and the appropriate case selection should be made;
- The figures 6, and 8 should be revised to be more clear;
- In Figure 14, please explain in detail the safety factor;
- It is necessary to perform on a number of tunnels with different cross-sectional shapes to ensure the accuracy and objectivity of the conclusions;
- The paper researched the possibility of working and using reinforced concrete (RC), steel-basalt hybrid fiber reinforced concrete (SBHFRC) and steel fiber reinforced concrete (SFRC) as the lining tunnels under the influence of earthquakes. However, the effects of other static loads were ignored during calculation, such as loads of soil and rock around the tunnel influencing the lining tunnel; the influence of groundwater on the lining tunnel (under the influence of the earthquake, the mechanical properties of the soil and rock around the tunnel may be changed);
- The paper should be paid to the case that the segmental concrete tunnel liners, with joints appearing. This is the type of lining that was used a lot in practice when the tunnel is affected by earthquakes.

Confidential feedback for the Editor

Your recommendation

- *Revise*

Is the study design appropriate to answer the research question (including the use of appropriate controls), and are the conclusions supported by the evidence presented?

- *Yes*

Are the methods sufficiently described to allow the study to be repeated?

- *Yes*

Is the use of statistics and treatment of uncertainties appropriate?

- *Yes*

Is the presentation of the work clear?

- *Yes*

Are the images in this manuscript (including electrophoretic gels and blots) free from apparent manipulation?

- *Yes*

Confidential comments to the Editor