

## Discussion and Closure:

### DISCUSSION OF

### “ANALYTICAL SOLUTION FOR PASSIVE EARTH PRESSURE OF $c-\phi$ SOIL USING PRINCIPAL STRESS ROTATION ASSUMPTION”

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The prediction of horizontal passive earth pressure applying on rigid retaining walls is an important subject in geotechnical design. The main aim of Ghaffari Irdmoosa and Shahir (2019) was to present a new analytical methodology for obtaining the passive earth pressure against a rigid retaining wall undergoing translation mode considering the arching effect. Also, the magnitude and height of lateral passive earth pressure are derived.

The authors proposed a new theoretical approach for calculating the passive earth pressure against a rigid retaining wall subjected

to translation (T mode). In verification of their results, they compared the proposed equation with the experimental measurements of Fang *et al.* (2002) and Dou *et al.* (2017). In the research of Fang *et al.* (2002), the translational movement was considered. However, the experimental data of Dou *et al.* (2017) belongs to a retaining wall rotating about the top (RT mode). Therefore, the verification done by Ghaffari Irdmoosa and Shahir (2019) with experimental data of Dou *et al.* (2017) in Fig. 5 in Ghaffari Irdmoosa and Shahir (2019) (Fig. 1 in this discussion) is not correct.

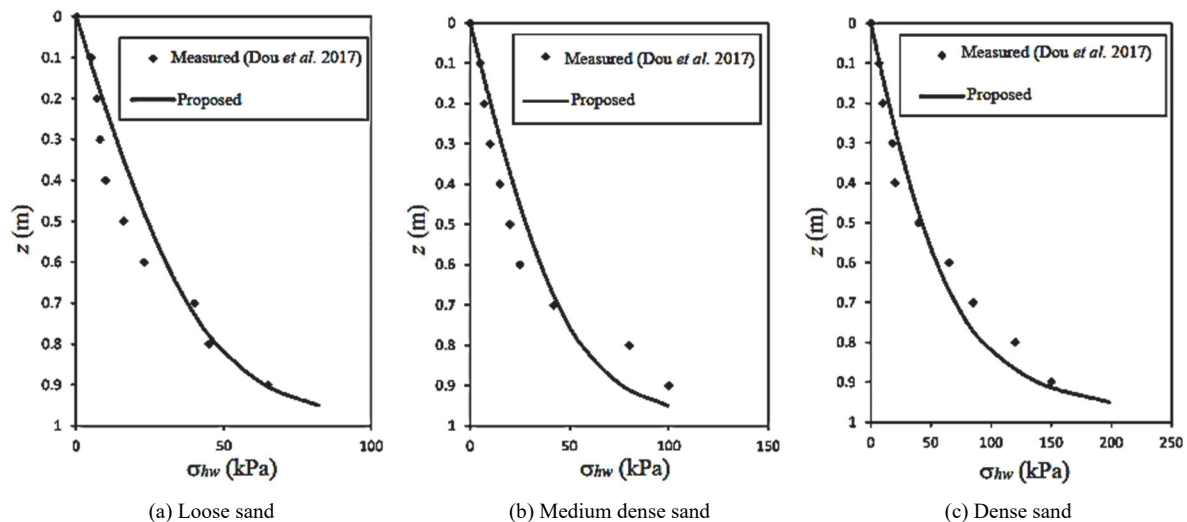


Fig. 1 Comparison of passive earth pressure by proposed equation and test results of Dou *et al.* (2017) (source: Ghaffari Irdmoosa and Shahir 2019)

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