



Research on the influence of deformation rules by freezing-thawing in shallowly-buried water rich loess tunnel



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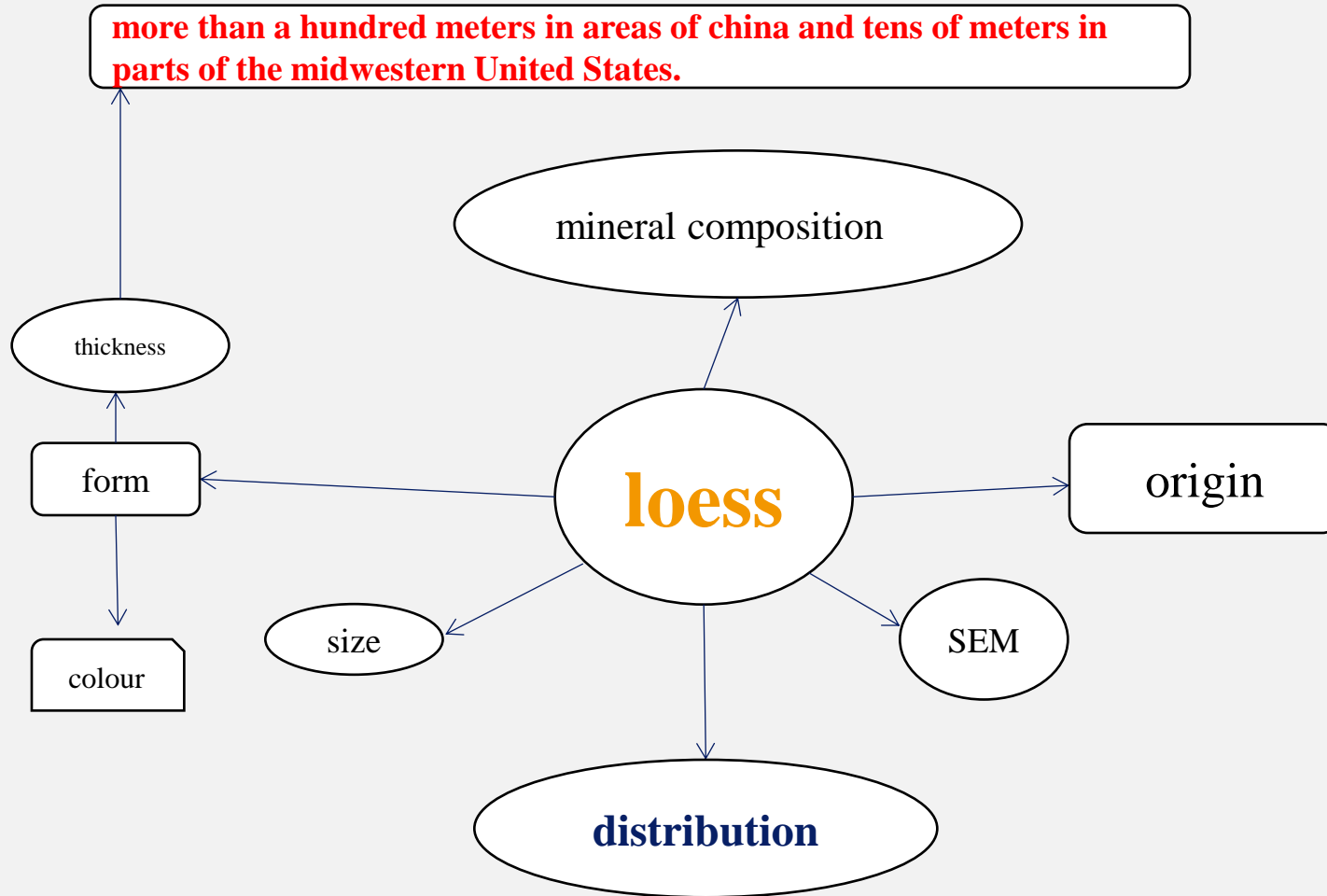
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Junfeng Tian

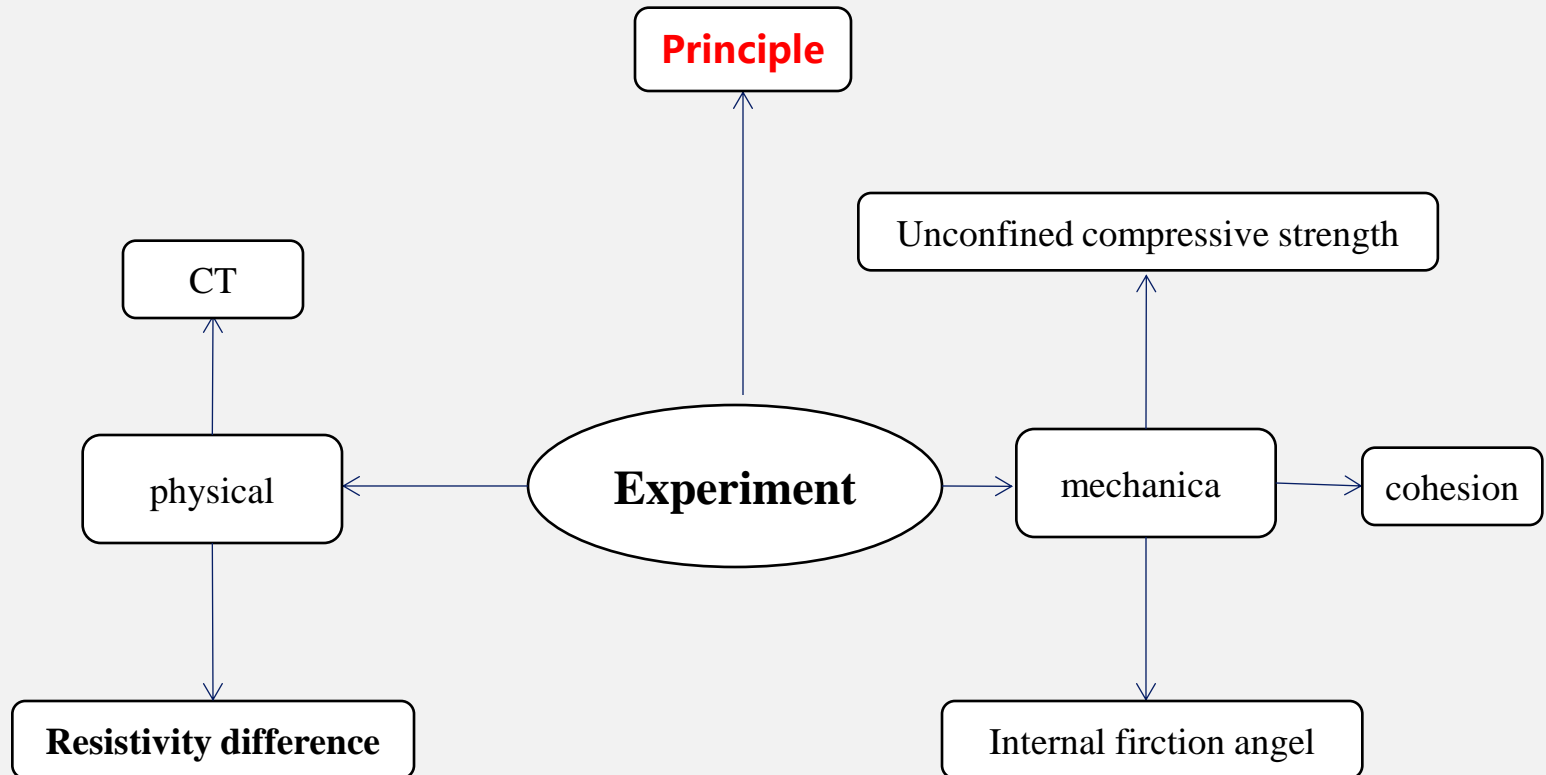
13991302509

2016.12.15

About Loess

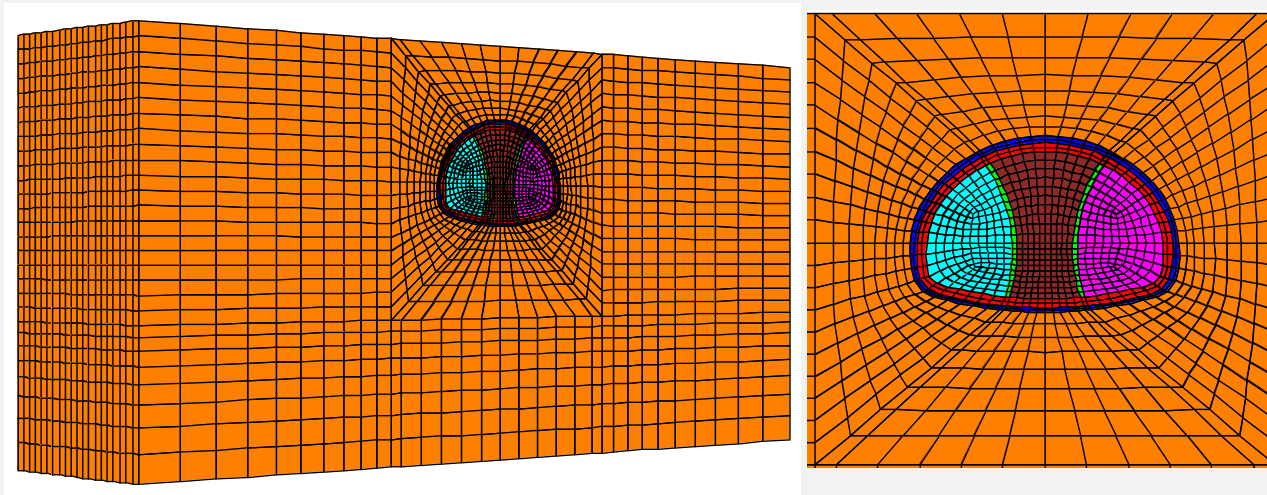


When loess Influenced by Freezing-Thawing Circumstance

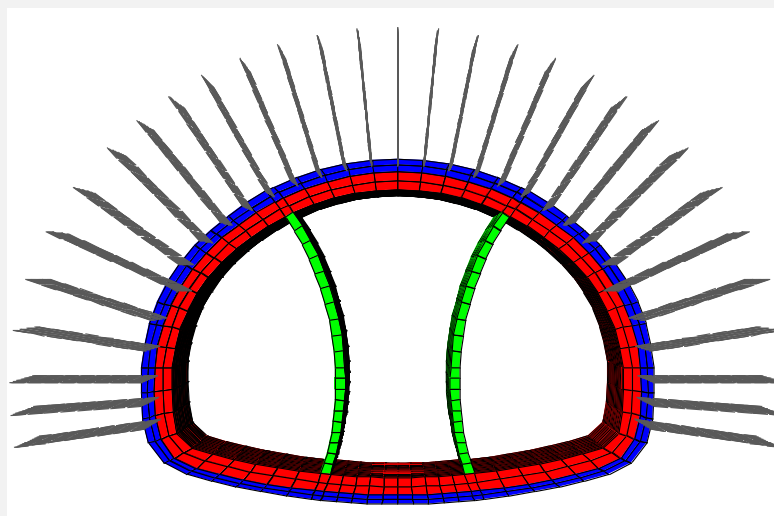


location





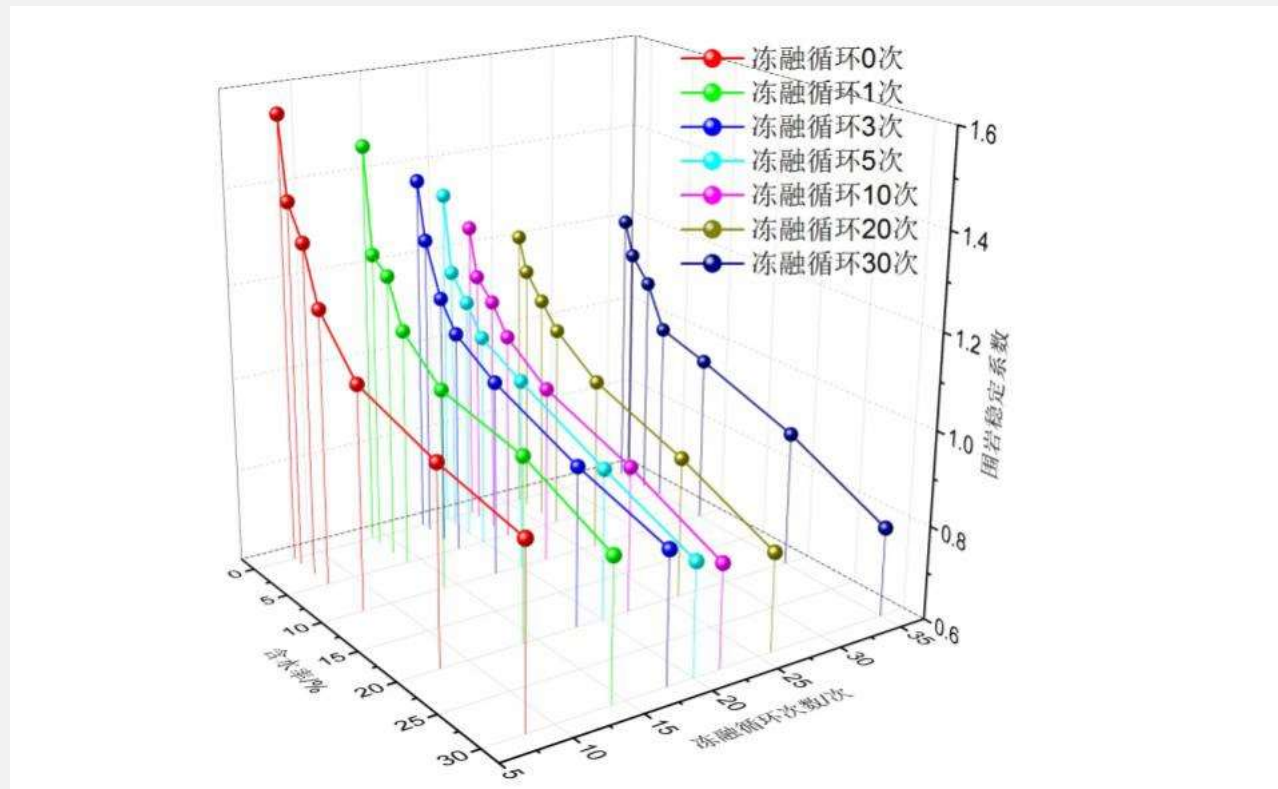
The 3D model of the ZK93+890 section in the Yangqu tunnel



The graphic of support structure

Stability coefficient

$$F_s = \frac{c \cos \varphi + \frac{\sigma_1 + \sigma_3}{2} \sin \varphi}{\frac{\sigma_1 - \sigma_3}{2}}$$





Thank you experts