

عنوان مقاله:

Numerical Simulation on the Stability of Surrounding Rock of Horizontal Rock Strata in the Tunnel

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خلاصه مقاله:

Horizontal rock strata is a geological condition of rock which is often encountered in the tunnel construction, and it has an important influence on the tunnel construction, it is necessary to analyze and study the stability of horizontal rock strata in tunnel construction to ensure the tunnel construction's safety and efficiency. By taking Xishan Highway Tunnel as the research object, and using the numerical simulation method, the numerical model of the tunnel has been established in the Midas/GTS to simulate the tunnel excavation under the horizontal rock strata condition and the deformation and failure mechanism of surrounding rock and the influence factors of surrounding rock stability after are studied and analyzed. The research focused on the displacement of surrounding rock horizontal and vertical deformation, the results show that the vertical displacement of the surrounding rock is obviously greater than that of other parts during the excavation of the horizontal rock tunnel. According to the calculation results, the optimization measures of horizontal stratum tunnel construction method are put forward, which has important reference value for ensuring the construction safety and construction quality.

کلمات کلیدی:

Highway Tunnel; Horizontal Rock Strata; Stability of Surrounding Rock; Numerical Simulation

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