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加筋土边坡的破坏形式

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FAILURE PATTERN OF REINFORCED SOIL SLOPES

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全文: PDF (1705 KB) HTML (KB) 输出: BibTeX | EndNote (RIS) 背景资料

摘要 了解加筋土边坡的破坏形式有助于加筋土边坡的设计和施工监测。对不同形式的加筋土边坡进行离心模型试验,绘制了边坡的破坏形式。试验结果表明:加筋土边坡能够保持较好的整体性,一般不会像未加筋边坡那样突然坍塌; 坡面附近土体内部可能先于坡顶产生裂缝,因此在实际工程中观察到显著的坡顶裂缝后,应当意识到在坡面附近的坡体内部也可能产生了裂缝。一般情况下筋材模量越大加筋效果越好,但在筋材和土接触面强度一定的情况下,筋材模量增大到一定程度后继续增大筋材模量是没有太大意义的。

关键词: 土工合成材料 加筋土 边坡 离心模型试验 破坏

Abstract: It is known that investigating the failure pattern is important for the design and construction monitoring of reinforced soil slope. In this paper, reinforced soil slopes with different reinforcements and soils are studied using centrifuge modeling. During the modeling, failure patterns are drawn and compared. Results show that the reinforced soil slopes are generally able to maintain better integrity and are not likely to collapse suddenly. Cracks may first occur near the slope surface. Therefore, significant cracks on the top of the slope may always imply that hidden cracks near the slope surface have also occurred. Generally, larger reinforcement modulus can bring better reinforcing effect. However, if the strength of the interface cannot be improved appropriately, it can be useless to indefinitely increase the modulus of the reinforcement once it is large enough.

Key words: Geosynthetics Reinforced soil Slope Centrifuge model test Failure

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