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## 南宁膨胀土加载-卸载试验及蠕变特性(PDF)

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Title: Loading and unloading test and creep characteristics of Nanning expansive soils

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关键词: [膨胀土](#); [回弹变形](#); [土流变特性](#); [元件模型](#)

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摘要: 利用固结仪对南宁膨胀土进行了一维加载-卸载实验,得到了加载-卸载条件下的应力应变关系。试验结果表明,土样加载或卸载时,以瞬时变形为主,其后随着时间的推移,迅速出现衰减蠕变或回弹变形,但最后仍然留下部分残余变形;含水率和应力水平越高,其塑性和流变特性越明显。根据压缩曲线和回弹曲线分析得到,膨胀土的变形由瞬时弹性变形、瞬时塑性变形,弹性滞后变形等组成。探索了膨胀土流变元件模型的组成形式,并通过拟合确定了相关的流变参数.所得结果可供膨胀土流变问题的进一步研究参考。

Abstract: One-dimensional loading-unloading tests were carried out on Nanning expansive soils respectively by means of consolidometer, and the stress-strain relationship were obtained in this paper. The results of the experiment show that the primary is instantaneous deformation; under same loading rate, the deformation speed reaches the maximum and then the speed decreases with time quickly. Finally, some of deformation could not be restored still when it is unloaded. The plastic and rheological properties are more and more obvious when the moisture content or stress is increased. The deformation is composed of instantaneous elastic deformation, plastic deformation and elastic hysteretic deformation. The form of the rheological components model of expansive soils was explored, and the rheological parameters of this soil was obtained. This provides a reference to further study on rheological model of expansive soils.

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