

## 黄土湿陷过程中的压力与湿陷速率关系的数学模型及分析

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**摘要** 通过对黄土湿陷过程的分析, 根据能量守恒定律, 建立了黄土的湿陷过程中压力与湿陷速率关系的数学模型。通过试验, 确定了模型中的相关参数, 得到了湿陷速率随压力变化曲线。根据对模型及试验曲线的分析, 指出在黄土湿陷过程中湿陷速率随着压力的增大而增大, 但增长速率却逐渐减小; 湿陷起始压力随着湿陷量的增大而增大; 湿陷速率的变化具有突变性。

**关键词** [土力学](#); [黄土](#); [压力](#); [湿陷速率](#)

分类号

## MATHEMATICAL MODEL AND ANALYSIS ON THE RELATION BETWEEN PRESSURE AND SPEED OF COLLAPSE DURING COLLAPSE OF LOESS

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### Abstract

On the basis of energy conservation during the collapsible process of loess, a relation between pressure and collapse speed during collapse of loess was built. The model parameters and the curves of the relation were obtained by experiment. Based on the model and the curve, the obtained conclusions are: the higher pressure is, the higher collapsible speed is; the larger quantity of collapse is, the larger collapse pressure of origination is, and the collapsible speed has the character of salutation.

**Key words** [soil mechanics](#); [loess](#); [pressure](#); [collapsible speed](#)

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