

地电场对裂隙岩块中溶浸液渗流特性影响的研究

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摘要 根据原地浸出过程中裂隙岩块中溶浸液渗流性质受地电场作用影响的特点, 建立电场作用下裂隙岩块的电动渗流模型, 并通过电动渗流实验研究地电场对裂隙岩块中溶浸液渗流特性的影响。研究表明, 地电场对裂隙岩块中溶浸液渗流特性影响非常明显, 裂隙岩块中溶浸液的电动渗流特性与地电场强度、岩块渗透率和溶浸液流体性质等因素密切相关。在同等压力梯度下, 受地电场作用的裂隙岩块中溶浸液渗流速度随正向电场强度增加明显增大, 随反向电场强度增加明显减小; 地电场能够强化或者减弱裂隙岩块中溶浸液的渗流扩散能力和溶浸液对岩块的润湿作用。

关键词 [岩石力学](#); [地电场](#); [溶浸液](#); [渗流特性](#); [原地浸出](#)

分类号

STUDY ON EFFECT OF GEOELECTRIC FIELD ON SEEPAGE PROPERTIES OF LEACHING SOLUTION IN FRACTURED ROCK BLOCK

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Abstract

According to the properties of influences of geoelectric field on solution seepage, a model of electro-dynamic seepage has been established; and the influences have been investigated through experiments. The results indicate that it is obvious that the geoelectric field affects the seepage properties; and the electro-dynamic seepage properties are affected by factors such as the intensity of geoelectric field, the permeability of rock mass, the characters of leaching solution and so on. Under the same pressure gradient, the seepage velocity of leaching solution well increases with the intensity of positive electric field, and decreases with the negative electric field. The seepage diffusibility of leaching solution and its wetting ability to fractured rock mass can be enhanced or weakened by the electric field.

Key words [rock mechanics](#); [geoelectric field](#); [leaching solution](#); [seepage property](#); [in-situ leaching](#)

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