

圆弧状多层沉积谷地在平面P波入射下稳态响应的解析解

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收稿日期 2007-7-10 修回日期 2007-12-12 网络版发布日期 2008-5-17 接受日期

摘要 利用波函数的FourierBessel级数展开法, 给出了含任意多个圆弧状沉积层的谷地在平面P波入射下稳态动力响应的解析解. 并以具有三个沉积层的谷地为例, 在宽频范围内, 利用稳态地面运动幅值的空间分布, 讨论了谷地中沉积介质的成层性对地面运动的影响.

关键词 [圆弧状多层沉积谷地](#) [平面P波](#) [散射](#) [解析解](#)

分类号 [P631](#)

DOI:

Analytical solution for the stationary response of alluvial valleys containing multiple circular-arc layers to incident plane P waves

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Received 2007-7-10 Revised 2007-12-12 Online 2008-5-17 Accepted

Abstract By the method of Fourier-Bessel series expansion of wave function, an analytical solution to the stationary dynamic response of alluvial valley containing an arbitrary number of circular-arc layers, which is excited by an incident plane P wave, is presented. Taking the three-layer valleys as examples and using the spatial distributions of amplitude of stationary ground motion, the influences of the layering of alluvial media in the valleys on the ground motion are studied in a broad frequency band.

Key words [Alluvial valley containing multiple circular-arc layers](#) [Plane P wave](#) [Scattering](#) [Analytical solution](#)

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