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## 加速度峰值不对称性特征及其影响 (PDF)

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Title: Study on characteristics and effect of asymmetry of peak ground acceleration

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关键词: [地震波](#); [峰值不对称性](#); [不对称比](#); [土体变形](#)

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摘要: 研究了地震波峰值的不对称性特征对土动力响应的影响以及地震波峰值不对称性的特征和规律。实验研究显示,地震荷载自身的不对称性对土体变形发展影响显著,其中加速度峰值的不对称性有重要影响,有时起控制作用。利用国内外287次5级以上的实际地震记录,用峰值不对称比描述了加速度峰值不对称性的特征和规律,提出了其估计公式。结果表明:加速度峰值不对称性特征明显,不对称比变化范围在1.0~3.3之间;加速度峰值不对称比出现在1.2~1.4的机率约为1/3,在1.1~1.5的机率约为2/3;加速度峰值不对称比的平均值从5级到8级地震其变化范围为1.4~1.2,总体上随震级加大而略有降低。

Abstract: The asymmetrical characteristics of PGA and its effect on the soil dynamic property are investigated. The effect of asymmetrical characteristics of seismic loads on the soil deformation is pointed out by using the triaxial dynamic tests. The test results indicate the asymmetrical characteristics of PGA has a significant effect and in some cases plays a dominant role. Using the records of 287 earthquakes above the magnitude 5 the feature of the asymmetry

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ratio of PGA is described and the its calculation formula is presented. The statistic results indicate that the asymmetrical characteristics of the earthquakes loads are obvious and the asymmetry ratio of PGA is 1.0-3.3, The probability of the asymmetry ratio of PGA is 30% for 1.2-1.4 and 60% for 1.1-1.5. The average asymmetry ratio of PGA is 1.4-1.2 from the magnitude 5 to the magnitude 8 and slightly decreases with increase of the magnitude.

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## 参考文献/REFERENCES