

## 地震震源机制对长周期地震动的影响研究

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**摘要** 长周期地震动特性的研究对自振周期较长的大型结构的抗震设计具有重要意义。利用1997年新疆伽师强震群的宽频带数字地震记录, 研究了震级大小和震源机制对长周期地震动特性的影响。结果表明: 地震震级对长周期地震动的影响较为明显, 震级越大, 长周期地震动的成分越多; 与走滑型地震相比, 倾滑型地震的垂直向长周期成分更为丰富; 走滑型地震的水平向长周期加速度反应谱值高于正断层型地震的水平向长周期加速度反应谱值。

**关键词** [地震工程; 长周期反应谱; 震源机制](#)

分类号

## STUDY ON IMPACT OF FOCAL MECHANISM ON LONG-PERIOD GROUND MOTIONS

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### Abstract

The study of long-period ground motions is significant to seismic design of large-scale engineering structures. The digital broad-band seismic records of strong earthquake swarm obtained in Jiashi, Xinjiang, China, in 1997 are used to study the impact of earthquake magnitude and focal mechanism on long-period ground motions. The results show that: (1) Earthquake magnitude has strong effects on the long-period ground motions. Larger earthquake has more long-period ground motion contents. (2) Compared with the strike-slip earthquakes, the oblique-faulting earthquakes have more long-period contents in vertical component. (3) The long-period horizontal acceleration response spectra of strike-slip earthquakes are higher than those of the normal-faulting earthquakes.

**Key words** [earthquake engineering; long-period response spectrum; focal mechanism](#)

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