

Evolution Mechanism of the Formation of Rock Heap under Seismic Action and Analysis on Engineering Geological Structure

Authors : Jian-Xiu Wan, Yao Yin

Abstract : In complex terrain and poor geological conditions areas, Railway, highway and other transportation constructions are still strongly developing. However, various geological disasters happened such as landslide, rock heap and so on. According to the results of geological investigation, the form of skirt (trapezoidal), semicircle and triangle rock heaps are mainly due to complex internal force and external force, in a certain extent, which is related to the terrain, the nature of the rock mass, the supply area and the surface shape of rock heap. Combined with the above factors, discrete element numerical simulation of rock mass is established under different terrain conditions based on 3DEC, and accelerated formation process of rock heap under seismic action is simulated. The fragmentation structure supply area is calculated, in which the most dangerous area is located. At the same time, the formation mechanism and development process are studied in different terrain conditions, and the structure of rock heap is judged by section, which can provide a strong theoretical and technical support for the prevention and control of geological disasters.

Keywords : 3DEC, fragmentation structure, rock heap, slope, seismic action

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