

عنوان مقاله:

(Rockfall hazard assessment in the right abutment of sefidrud dam, Gilan (Iran

محل انتشار:

چهارمین کنفرانس بین‌المللی رفتار بلندمدت و فن‌آوری‌های نوسازی سازگار با محیط زیست سدها (سال: 1396)

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خلاصه مقاله:

Sefidrud dam is one of the four largest dams of Gilan Province, Iran. The height and crest length of the dam are 106- and 425 m, respectively. In the right abutment, the intersection of bedding plane with four joint sets has initiated wedge and toppling failures and falling blocks with the potential southwest trends. In the present research, rockfall modeling (at four seeders) was performed to assess the hazards related to these falling blocks. The obtained results indicate that the maximum run-out distance for seeders 3 and 4 are 230.1 and 230.7 m, respectively. These values present that dam is not affected by the coverage distance and block amplitude. In comparison, for seeders 1 and 2 all blocks pass over the Qazvin-Rasht freeway and fall down into the dam. The maximum bounce height, maximum velocity, and maximum kinetic energy at seeder 2 are 12 m, 13.7 m/s, and 15,000 kJ, respectively. Therefore, rockfall occurrence may pose some safety risks to the cars in the freeway and also the dam itself. As some remedies to deal with this situation, it is suggested removing loose blocks and installing rockfall-retaining structures such as protection barrier at the elevation 245 m.

کلمات کلیدی:

Sefidrud Dam, Joints, RocFall Modeling, Coverage Distance, Barrier

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