Abstract Details

Corresponding Author : Dr. Timothy Davies (tim.davies@canterbury.ac.nz)

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Title: The Acheron rock avalanche, Canterbury, New Zealand dynamics a processes

Abstract:

GUYON M. SMITH1, TIM R. DAVIES1, MAURI J. MCSAVENEY2. DAVID BELL1 1 Dept of Geological Sciences, University of Canterbury, Privat 4800, Christchurch, New Zealand 2 Institute of Geological & Nuclear Sciences Ltd., PO Box 30368 Lower Hutt, New Zealand Computer sim of the 3.5 km runout of the ten million cubic metre, 1100 year-old Ac rock avalanche deposit in Canterbury, New Zealand, showed that its behaviour can be explained as a flow of dry granular material with a coefficient of friction, if the presence of an isotropic dispersive stress the moving rock debris throughout the runout is assumed. The disper stress distribution required to generate the rock avalanche runout is i to that required to simulate the runout of the much larger Falling Mou rock avalanche in a similar lithologic and tectonic setting. Both event behaved in a fundamentally similar fashion. The deposits of both rock avalanches comprise intensely fragmented greywacke rock, and the processes of intense rock fragmentation that must have occurred dur runout cause sufficient dispersive stress to explain the motion and th deposit characteristics of both events.

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Co-Authors

No.	Title	First Name	Family Name	Organization
1	Mr.	Guyon	Smith	University of Canterbury, NZ
2	Mr.	Bell	David	University of Canterbury, NZ
3	Dr.	McSaveney	Mauri	G.N.S. Lower Hutt NZ