

explosion and a double couple component for strain release, are determined. The relative strength of the double-couple component is very strongly dependent on the stress-strain properties of the host medium. For granite and some other hard rocks, the multipolar strain energy release is significant, while for alluvium and salt it is negligibly small. The strike of the double couple is generally in agreement with the local tectonic framework.

The mechanism of strain release by explosion in a prestressed medium is studied in light of the controlled laboratory experiments. Effects of pre-stress level and the directional cracks on radiated transverse waves are demonstrated.

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MICROEARTHQUAKES, SWARMS, AND THE GEOTHERMAL AREAS OF ICELAND

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Over 2100 earthquakes were recorded with portable seismographs operated in Iceland during the summer of 1968. Another 600 events were precisely located in three areas using data from tripartite arrays. The earthquakes recorded are largely confined to 13 regions that are each generally less than 100 km² in area. Most of the well-located events are at depths of 2 to 6 km with some less well located events as deep as 13 km. The microearthquakes are largely confined to the upper few kilometers of the oceanic layer or layer 3 (Vp = 6.5 km/sec in Iceland).

Geothermal areas in Iceland that are structurally related to fissures generally have high microearthquake activity. Geothermal areas that have few fissures and appear to be structurally related to acid intrusions contain little or no microearthquake activity.

The distribution of zones of microearthquake activity generally supports the hypothesis of a transform fault in southern Iceland. It appears that the stress along this fault is being relieved in geothermal areas by numerous microearthquake swarms occurring nearly continuously. Outside of the geothermal areas, mainshock-aftershock sequences seem to be the dominant mode of stress release. The swarms may be attributed to weakening of the crust by fluids or fluid pressure.

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A swarm of 217 earthquakes occurred in August 1967. It was located in British Columbia, United States and British Columbia for $140 \leq \Delta$

(T_{Pn} ±(T_{Sn} ±

These travel times are for the epicenter near Couvier Island.

The magnitude-frequency

(Log₁₀

Epicenters for 19 earthquakes are plotted on a crustal model. They plot near the contact of the transform zone.

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A computer driven program is used to monitor simultaneous seismic data. This man-machine interaction involves the following operations: (1) arbitrary time windowing; (2) a sliding window; (3) a field map overlay; (4) a zoom of the spatial coordinates; and (5) parametric filtering. The