

*Seismology and Geothermal Exploration*DAVID BUTLER, KEN CARLSON, AND
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Economic geothermal resources occur in regions of current tectonism. One indicator of such geologically active areas is a high relative level of seismicity which manifests itself as a large number of small earthquakes. An array of ground-motion sensors operated at very high gains ($1 - 10 \times 10^6$) and with time resolution of milliseconds can be used to detect and locate seismic events of interest in geothermal exploration. Digital tape recording of the data allows cross-correlation of events and their precise location via a generalized inverse least-squares method. Funds provided by NSF have allowed the recording of microearthquake data near the Black Rock Desert area of Nevada. Results of the survey can be interpreted to indicate favorable areas for development of geothermal resources.