

Séminaire

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Recent Developments in Glacier Seismology

The deployments of seismic monitoring networks on or near glaciers and ice sheets has drastically increased over the last decade. This has resulted in a growing body of seismic data that contains signatures of various glacial processes, such as basal sliding, crevasse formation, iceberg calving and subsurface water flow. The application of well-established analysis techniques from earthquake seismology to these data sets thus opens new and unprecedented ways to study glacier dynamics.

Here I present recent seismic studies of glaciers in the European Alps and at the periphery of the Greenland ice sheet. I discuss the various scales of glacier seismicity ranging from micro-fracturing to episodic iceberg detachments, which can be detected at global distances. Moreover, recent advances in seismic noise analysis offer a new perspective on continuous seismic data sets, which may contain crucial information on englacial water flow.