

Recent topics on "Cryoseismology"

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Several kinds of environmental signals associated with ocean - cryosphere - solid earth system have been recently detected in bi-polar regions. Ice-related seismic motions for small magnitude events are generally named ice-quakes (ice-shocks) and can be generated by glacially related dynamics. Such kinds of cryoseismic sources are classified into the movements of ice sheets, sea-ice, oceanic tide-cracks, icebergs and the calving fronts of ice caps. Cryoseismic waves are likely to be influenced by the variations in environmental conditions, and the continuous study of their time-space variability provides indirect evidence of climate change. As glacial earthquakes are the most prominent phenomena found recently in polar regions, in particular on the Greenland in this 21st century, the new innovative studies from seismology are expected by long-term monitoring under extreme conditions in the Earth's environment. Taking these issues into account, the recent topics on "Cryoseismology" are introduced, including major achievements on glacial related seismic events involving characteristic phenomenon in polar regions. It is particularly focused on seismic signals associated with dynamics of ice sheets, sea-ice, icebergs and glaciers.

Keywords: cryosphere dynamics, glacial earthquakes, ice-quakes, global warming, polar surface environment