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Modern Developments of Seismometers in Russia

Various companies in Russia are engaged in development of such seismometers. Borehole seismometers on the basis of modules SEP-1 and SM-6 as well as seismometers SSKV and SSB3 can be considered the most promising developments for installation at IMS seismic stations.

Modules SEP-1 have been developed with the use of magnet suspension of inertia mass and employment of feedback. There are two modifications of modules SEP-1: short period and broadband with operating frequency ranges 0.5-50 Hz and 0.02-50 Hz respectively and lowered self-noise level. Pilot models of short period vertical and broadband 3-component borehole seismometers have been produced on this basis.

Modules SM-6 are a smaller analog of a well-known seismometer SM-3KV manufactured on the basis of magnet suspension of inertia mass and a magnetoelectric transducer. A small size of module SM-6 makes it possible to produce seismometers for installation in Ø150 mm boreholes. The operating frequency range of 0.5-40 Hz, a very low level of self-noise and a wide operating temperature range (from -20° to +45°C) make this seismometer perspective for use as part of technological equipment of seismic arrays in various regions of the Earth, including permafrost regions.

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