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Title:The effect of bias feed profile on the linewidth of noisy Josephson flux flow oscillator

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Abstract:For creation of a noisy non-stationary spectrometer operating in the sub-THz frequency range, the emitting power and spectral characteristics of a flux-flow oscillator based on a long Josephson junction are considered. The effect of bias current profiles on the spectral linewidth of a long overlap Josephson junction is investigated and compared with the inline junction geometry. It has been demonstrated that the spectral linewidth can be increased by a factor of three with a moderate reduction of the emitted power.

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Inspec controlled terms:aluminium compounds - flux flow - Josephson effect - niobium - spectral line breadth

Uncontrolled terms:bias feed profile effect - noisy Josephson flux flow oscillator - noisy nonstationary spectrometer - emitting power - spectral characteristics - Josephson junction - bias current profiles - spectral linewidth - inline junction geometry - Nb-AlO_x-Nb

Inspec classification codes:A7450 Superconductor tunnelling phenomena, proximity effects, and Josephson effect - A7460G Flux pinning, flux motion, fluxon-defect interactions

Chemical indexing:Nb-AlO-Nb AlO Al Nb O AlO Al O Nb

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