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# Prospective on multi-beam detectors

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## Abstract

Heterodyne receivers for millimetre and sub-millimetre frequencies have dramatically improved in the past 20 years, thanks in particular to the technological push accompanying large missions such as Herschel/HIFI, ALMA or NOEMA. The single pixel performance has reached close to quantum-limited performances and the development goals now consist mainly in extending the RF and IF bandwidths and building large multi-pixel arrays. The current state of the art and ongoing multi-beam projects will be presented. Finally, a projection of the multi-beam possible capabilities for millimetre and sub-millimetre ground-based, airborne and satellite projects will be shown for the 10-year timescale.

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