427. Title:Highly coherent terahertz wave generation with a dual-frequency Brillouin fiber laser and a 1:55 μm photomixer
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we report the generation of a highly coherent kilohertz level submillimeter wave emission. Low-cost telecommunications components are used to achieve very simple source architecture. The photomixer is composed of a unitravelling carrier photodiode integrated with an antenna. An emission at 316 GHz is observed and analyzed thanks to heterodyne detection with a signal-to-noise ratio >65 dB and a ˜1 kHz linewidth. The phase noise of the proposed source has the same performance at 1.7 and 316 GHz. We show that this source has comparable or better phase noise compared to electrical oscillators and the tunability is much wider.