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Title:A broadband and tunable MMW-THz quasi-optical cavity

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Abstract:Based on the Fabry-Perot cavity, a broadband and tunable cavity is presented and investigated theoretically and experimentally. The results show that the cavity can work in the millimetre wave (MMW)-THz frequency regime. The experimental Q value is up to about 6000 at 37.5 GHz and higher than 800 at 2.54 THz. The resonant frequency of the cavity can be tuned by adjusting the distance between two mirrors, and it is capable of working at a high power. So this quasi-optical cavity may have very good potential applications in MMW-THz science and technology.

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