359. Title:Broadband terahertz transmission within the air channel of thin-wall pipe
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Abstract:We report broadband transmissions of terahertz radiations through the air channel of thin-wall pipe. The impacts of the wall thickness and of the refractive index of the material on the transmission window bandwidth are investigated. An extension of the bandwidth by at least 5.5 times is reported with a commercial drinking straw. The salient properties of the antiresonant reflecting guiding mechanism are studied with the terahertz time domain spectroscopy method, including the reduction of the attenuation coefficient of the propagated field by 60 times the material absorption coefficient.