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Abstract:Rubber compounds were investigated by terahertz time-domain spectroscopy. Terahertz absorption spectra of crude rubbers and additives were measured as well as those of acrylonitrile-butadiene rubber compounds, which included the additives. It was found that carbon black, which is one of the additives and serves as a filler, dominates the terahertz absorption owing to its metallic characteristics. Thus, terahertz spectroscopy is a useful method for rapid nondestructive inspection during the rubber production.
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