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## **Terahertz Imaging: A New Method for Dispersion Monitoring in Polymeric Compounds**

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We show that terahertz time-domain spectroscopy (THz TDS) is a powerful tool to evaluate the degree of dispersion in polymeric compounds. Several samples of polymeric compounds of polypropylene and the flame retardant agent Mg(OH)<sub>2</sub> were produced under different compounding conditions (different screw design, Mg(OH)<sub>2</sub> content and throughput). The samples were investigated by mechanical tests, by microscopy and by terahertz imaging. In the terahertz images the samples show significant inhomogeneities on a millimeter scale revealing imperfectly mixed material regions.