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Title: Detection of Forerunners in Structural Dispersion Using High Power Microwaves
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Abstract

Analogous to forerunners that exist in dispersive systems dominated by material dispersion (Brillouin and Sommerfeld type), we show the existence of forerunners in systems dominated by structural dispersion. In a novel application, high power microwaves generated using the Sinus-6 electron beam-driven backward wave oscillator are used to probe a three-dimensional periodic dielectric structure (photonic crystal). It is using this diagnostic that we have established the characteristics of the forerunners in the time-domain. Results of these diagnostics will be presented.

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