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Reflective Optical and Microwave Limiters based on Non-Linear Localized Modes ELEANA MAKRI, HAMIDREZA RAMEZANI, TSAMPIKOS KOTTOS, Department of Physics, Wesleyan University, Middletown CT-06459, USA, ILYA VITEBSKIY, Air Force Research Laboratory, Sensors Directorate, Wright Patterson AFB, OH 45433 USA — A limiter is a structure that controls signal transport by allowing the transmission of low intensity signals while blocking signals with excessively high intensity. Existing designs lead to the absorption of excessive high intensity which can cause their overheating and eventually their (self-)destruction. We introduce the concept of *reflective limiter* which is based on resonance transmission via a non-linear localized mode. Such a limiter does not absorb the high level radiation, but rather reflects it back to space. Importantly, the total reflection occurs within a broad frequency range and for any direction of incidence. The proposed concept can be applied to optical and microwave frequencies.

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