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Resonant enhancement of absorption in the superlens LEONID ALEKSEYEV, ZUBIN JACOB, EVGENII NARIMANOV, Princeton University — The Veselago lens (also known as the super lens) [1], which is a slab made of left handed material with $\varepsilon=-1$ and $\mu=-1$ has interesting properties like perfect lensing [2] and cloaking [3]. When a source is placed in front of it there are regions of high field intensity in such a lens, known as anomalously localized resonant regions [3]. For practical applications of the superlens taking advantage of these properties, the effect of finite loss on the device performance is critical [4]. We calculate the absorption loss of dipole radiation by an $\varepsilon < 0$ and $\mu < 0$ slab and find resonant enhancement of absorption in the superlensing regime.

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