

Laser Assisted Cherenkov Emission in Resonant Media

M. Artoni, I. Carusotto^{a,b}, G. C. La Rocca^{a,b}, and F. Bassani^a

INFN, European Laboratory for Non-linear Spectroscopy, Largo E. Fermi 2, Florence, Italy;
Instituto de Optica, CSIC, Serrano 123, 28006 Madrid, Spain

^a INFN, Scuola Normale Superiore, Piazza dei Cavalieri 7, 56126 Pisa, Italy

^b Dipartimento di Fisica “E. R. Caianiello”, Università di Salerno, 84081 Baronissi (Sa), Italy

Reprint requests to Dr. M. A.; E-mail: artoni@lens.unifi.it

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We theoretically examine the behaviour of Cherenkov radiation in a lossy, dispersive and resonant medium when emission is assisted by an external electromagnetic field. Under the appropriate coherence conditions for Cherenkov emission, we anticipate a large increase of the emission yield at resonance. Our predictions are implemented by numerical estimates for cuprous oxide (Cu_2O).

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