

Abstract Submitted
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Extremely short pulses in Maxwell-Duffing model¹ UTPAL ROY,
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analyze the reduced Maxwell-Duffing model relevant for ultra short pulse propa-
gation in non-resonant media. We find a wide class of localized pulse solution,
through a novel method. It is observed that, these solutions are related to non-
linear Schrödinger equation with a source. We also find continuous wave solutions.
Some of the solutions are singular, indicating self-focusing effect. Modulation insta-
bility and stability analysis of the solutions have also been studied.

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