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[531] Wave propagation in an exponential index profile: Exact solution and application to pump-probe spectroscopy

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We show that a refractive index varying continuously in space, e.g. due to optical excitation, may not be approximated by a rectangular function as it is common usage in the evaluation of pump-probe spectroscopy. For the example of a terahertz probe wave, we demonstrate the importance of the excitation depth and that approximative solutions may lead to an erroneous data interpretation.

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