



Effect of a plasma grating on pump-probe experiments near the ionization threshold in gases

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Calculations are performed of the phase shift caused by the spatial modulation in the plasma density due to interference between a strong pump pulse and a weak probe pulse. It is suggested that a recent experiment [Loriot et al., Opt. Express v. 17, 13429 (2009)] observed an effective birefringence from this plasma grating rather than from the higher-order Kerr effect.

Comments: 3 pages, 1 figure. Fix typos and correct numbers

Subjects: **Optics (physics.optics)**; Atomic Physics (physics.atom-ph); Plasma Physics (physics.plasm-ph)

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