PHYSICAL REVIEW A 72, 019903(E) (2005)

Erratum: Electromagnetically induced left-handedness in a dense gas of three-level atoms [Phys. Rev. A 70, 053806 (2004)]

M. Ö. Oktel*

Department of Physics, Bilkent University, 06800 Bilkent, Ankara, Turkey

Ö. E. Müstecaplıoğlu[†]

Department of Physics, Koç University, Rumelifeneri Yolu, 34450 Sarıyer, Istanbul, Turkey

(Received 17 May 2005; published 20 July 2005)

The formula [Eq. (19)] for the induced dipole moment of the atom contains a sign mistake in the exponent. After correcting the error it should read

$$\langle \vec{\mu} \rangle = -\frac{\Omega_1 \Omega_2^* \vec{\mu}_{12} \exp[i(\nu_2 - \nu_1)t]}{4(i\Delta + \gamma_{31})[i(\Delta - \delta) + \gamma_{21}] + |\Omega_2|^2} + \text{c.c.}$$
 (1)

As the expression includes the complex conjugate, there is a term matched to the probe field and the conclusions in the paper are not affected.

In the sixth paragraph, it is stated that two media related as $\epsilon_2(\omega) = -\epsilon_1(\omega)$ and $\mu_2(\omega) = -\mu_1(\omega)$ would have the same indices of refraction. This is incorrect. These relations give two media with the same wave impedance but opposite indices of refraction $n_2 = -n_1$.

^{*}Electronic address: oktel@fen.bilkent.edu.tr †Electronic address: omustecap@ku.edu.tr