Errata: Fresnel drag in space-time modulated metamaterials.

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We note that the Lorentz transformation of the magneto-electric coupling, Equation 24, should be

$$\xi \quad = \quad v\frac{\epsilon'\mu' - 1/c_0^2}{1-\epsilon'\mu' v^2}. \qquad [1]$$

In addition, in the expressions for the transformation of the permittivity and permeability, Equations 21 and 22, c_m should be replaced by c_0. Note that in our units $c_0 = 1$, and v is also assumed to be normalized by the speed of light.

With that set of equations (21, 22 and the amended version of 24), the parameters of the equivalent moving medium (ϵ', μ' and v_D) can be re-derived. To second order in the modulation parameter, α, the resulting expressions yield the same as Equations 25 and 26 in the main text, with the exception of a pre-factor in the drag velocity,

$$v_D \quad \approx \quad -\alpha^2 \frac{1}{c_0^{-2} - c_m^{-2}} \left(\frac{2g\Omega}{c_m^2 g^2 - \Omega^2} \right) \qquad [2]$$

The above equation for the drag velocity is naturally ill-defined for $c_m = 1$, as this implies the modulation of a vacuum.

The above changes do not change any of the conclusions in the paper.

The authors declare no conflict of interest.

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