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A direct time integration of Maxwell equations in dielectric and magnetic dispersive materials for FDTD modelling of metamaterials JESUS MANZANARES-MARTINEZ, JORGE GASPAR-ARMENTA, Departamento de Investigacion en Fisica, Universidad de Sonora — A new procedure of integration for the Maxwell equations is present to study dielectric and magnetic dispersive materials using the Finite Difference Time Domain Method. Our method is based on a direct application of the Fourier Transform for the temporal and frequency integrations of the constitutive relations. We study Drude and Lorentz dispersive media. We present different results for the light reflection of a pulse impinging dispersive dielectric, dispersive magnetic, or both dispersive media.

Jesus Manzanares-Martinez
Departamento de Investigacion en Fisica, Universidad de Sonora

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