

Abstract Submitted
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ENZ-enhanced transmission through sub-wavelength slits SANDEEP INAMPUDI, DAVID SLOCUM, DAVID C. ADAMS, SHIVSHANKAR VANGALA, WILLIAM D. GOODHUE, DANIEL WASSERMAN, VIKTOR A. PODOLSKIY, PHOTONICS CENTER TEAM — We have performed a comprehensive analysis of the role of bulk ENZ (Epsilon near Zero) materials in the enhancement of light transmission through a subwavelength slit. We developed an analytical model capable of calculating the field distribution throughout the system. Our results show that the transmission enhancement is dominated by the plasma resonance of ENZ “substrate” layer. On the other hand, the transmission enhancement due to ENZ filling of the slit is often compensated by material absorption accompanying plasma resonance.

Sandeep Inampudi

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