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A Novel Nanoscale Coaxial Optical Microscope by
Converging Array of Subwavelength Waveguides FAN YE,
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A novel nanoscale coaxial optical microscope (NCOM) is proposed by
constructing a converging array of coaxial subwavelength optical
waveguides (nanocoax). This new design has potential for deep
subdiffraction limit resolution, essentially independent of wavelength of
the light source. The coaxial structure also has the capability of modal
confinement, which can be utilized to extract phase information in the
imaging plane. The transmittance and energy dissipation properties of
a single nanocoax are obtained, in the visible light range, by numerical
simulation. Optical properties of a converging nanocoax array are also
investigated numerically. Finally, progress toward an experimental
realization of this novel NCOM is discussed.

*Added after abstract submission deadline.

Prefer Oral Session
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