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**Plasmonic nano-circuitry**

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Photonic components are superior to electronic ones in terms of operational bandwidth but suffer from the diffraction limit that constitutes a major problem on the way towards miniaturization and high density integration of optical circuits. The degree of light confinement in dielectric structures, including those based on the photonic band-gap effect, is fundamentally limited by the light wavelength in the dielectric used. The main approach to circumvent this problem is to take advantage of hybrid nature of surface plasmons (SPs) whose subwavelength confinement is achieved due to very short (nm-long) penetration of light in metals. After briefly reviewing various SP guiding configuration the results of our investigations of subwavelength photonic components utilizing SP modes propagating along channels cut into gold films are overviewed [Nature **440**, 508 (2006); Nano Lett. **7**, 880 (2007)], demonstrating first examples of *ultracompact* plasmonic components that pave the way for a new class of integrated optical circuits [Physics Today, May 2008, pp.44-50]. Recent results on the SP guiding along gold wedges at telecom wavelengths are also presented [Opt. Express **16**, 5252 (2008)].