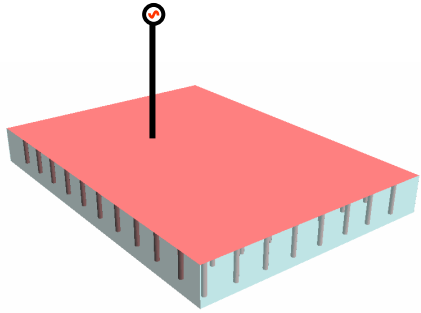
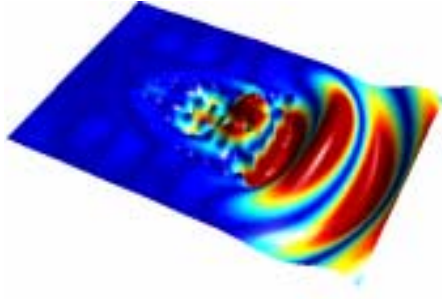


Crystal as Antennas



The presented sandwich-like antenna structure consists of a two metallic plates with the dielectric photonic crystal located between them. A periodical structure is formed by the homogeneously distributed metallic cylindrical rods inside the antenna volume. A defect is a vacancy – absence of the rod in the given cell. The antennas' feeding is supplied by a coaxial cable and is simulated by the linear current. The resonant channels are formed by the defects introducing a phase delays to the propagating in them wave, thus promoting the directed radiation behavior of the antenna. The near field distribution at the resonant frequency and the pattern of radiation is presented on figure below.



More flexible and omni-steerable antenna can be built up using the symmetrical hexagonal lattice as the core for the FPC.

Here three independent sources are placed symmetrically relative to the lattice thus providing a possibility to radiate in fact, in any direction, depending on the feeding current's phases and amplitudes selection. The field figures show the near field distribution. Such antenna can be used in some kind of radar or autotracking systems

