

FC-iPCA: fiber coupled interdigital photoconductive antenna

The interdigital photoconductive antenna array iPCA needs a parallel laser beam for optical excitation. If the laser power for the antenna array is provided using a single mode fiber, for instance in a photomixing THz setup, an adjusted parallel beam must hit the microlens array of the iPCA.

The FC-iPCA fiber coupler with FC/PC connector contains a fiber collimator for an output beam diameter of 0.91 mm and an adjustment stage for alignment of the beam parallel to the optical axis of the microlens array. The beam diameter fits well to the photoconductive antenna array with 1mm x 1mm area (iPCA-21-05-1000- λ -h).

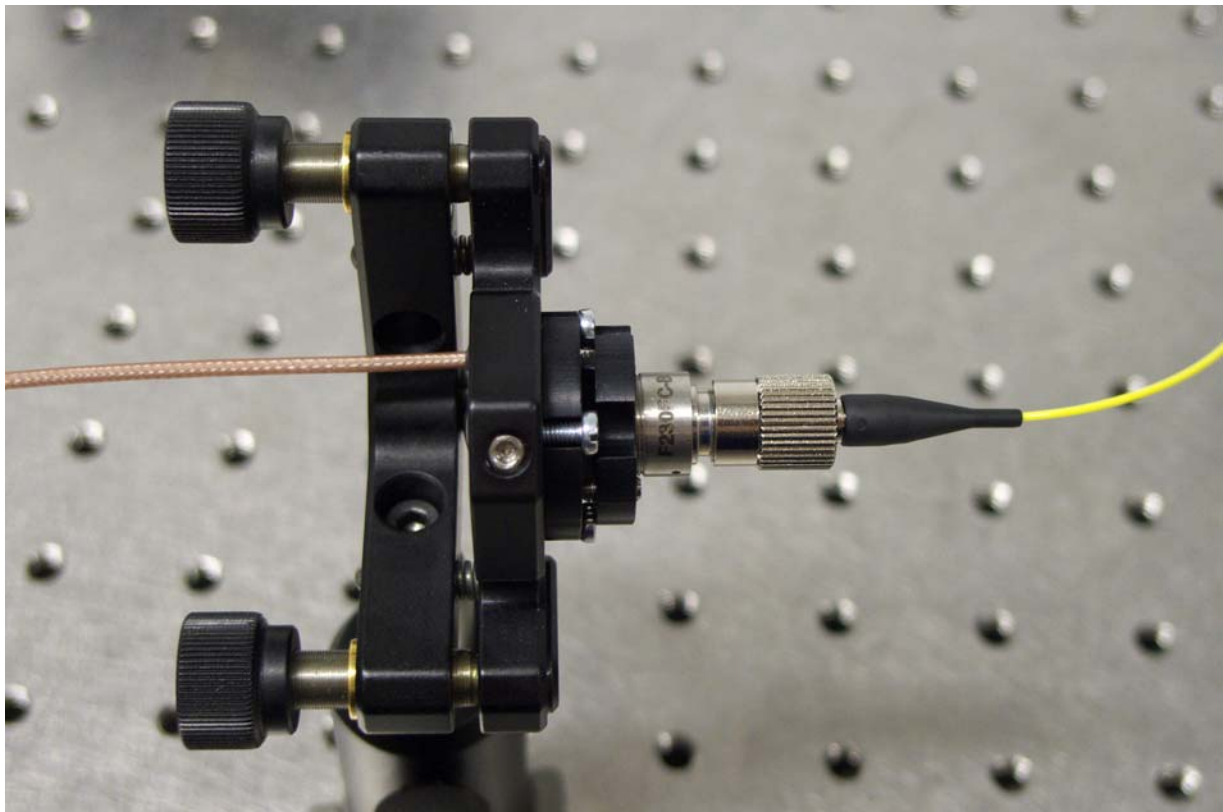


Fig. 1: Mounted interdigital photoconductive antenna (iPCA) with microlens array, hyperhemispherical silicon lens and fiber coupler

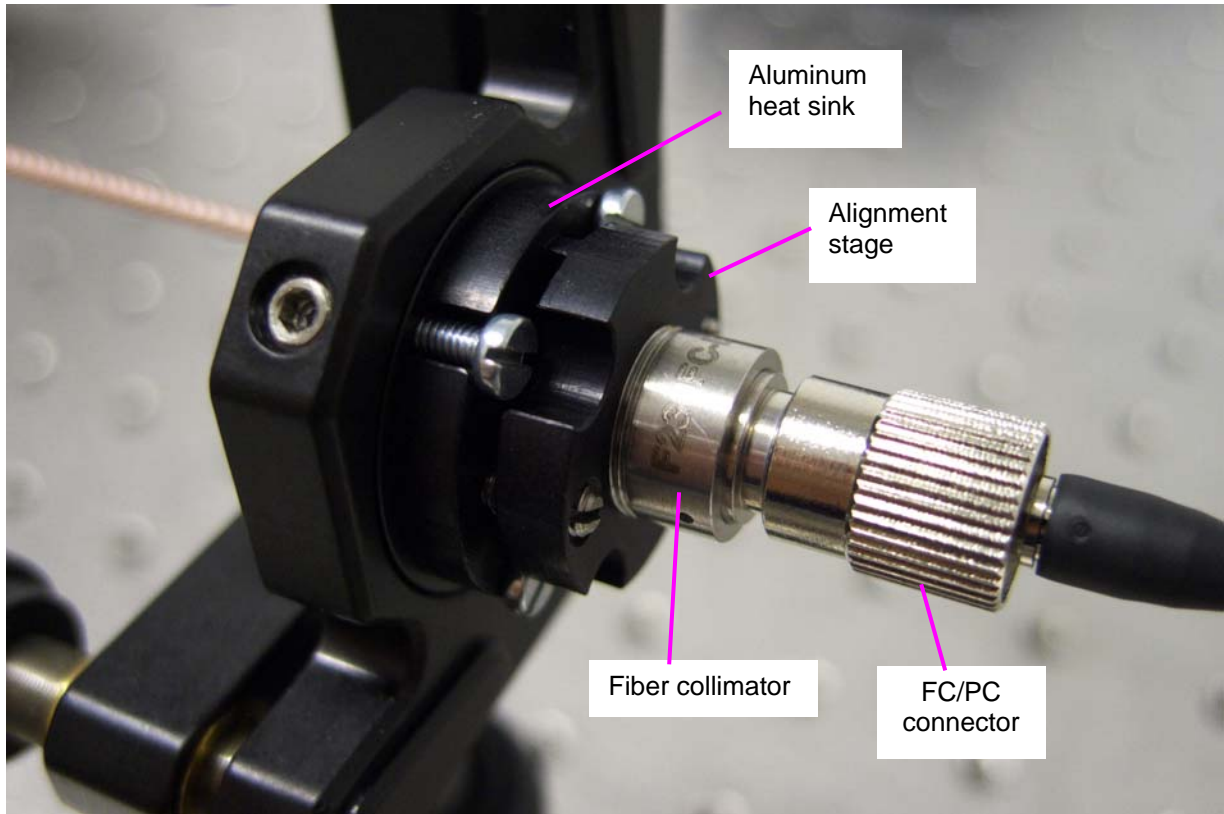


Fig. 2: Enlarged view of the mounted antenna with fiber collimator and FC/PC connector

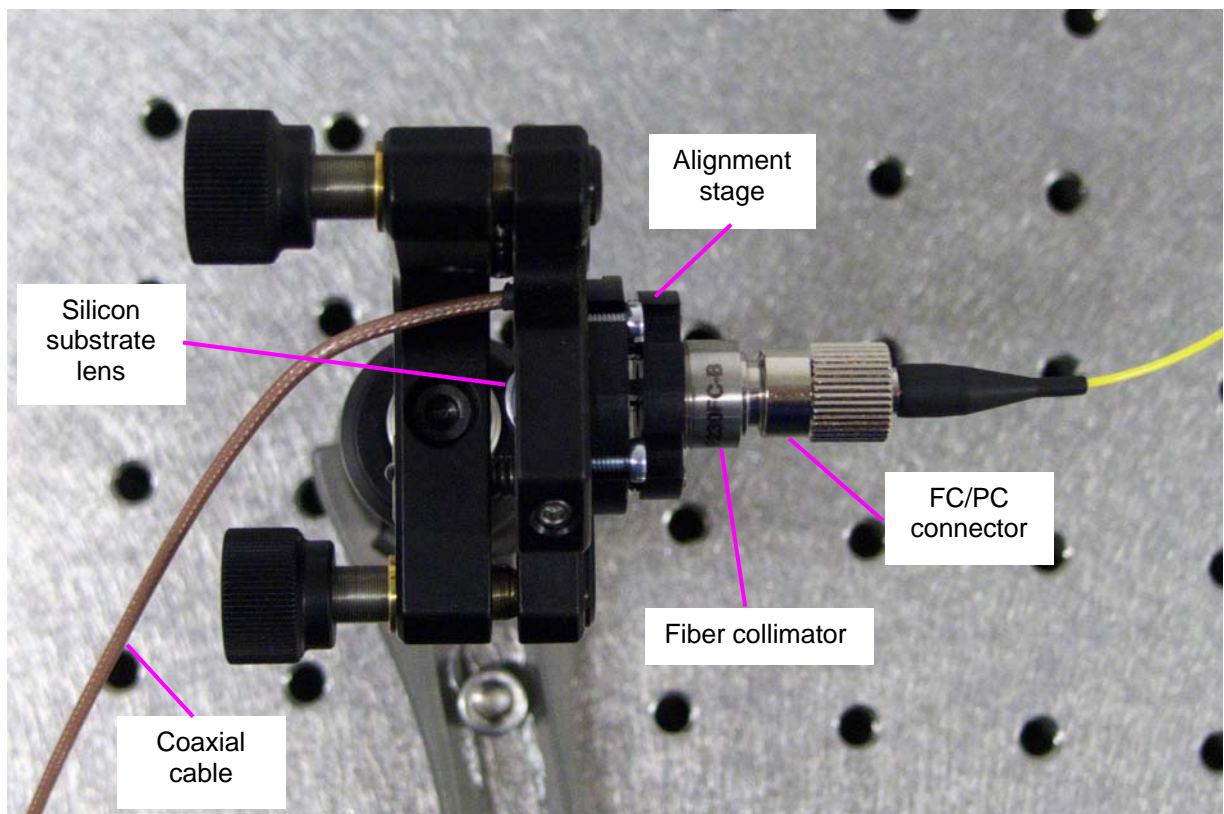


Fig. 3: Top view of the mounted antenna with microlens array, hyperhemispherical silicon lens and fiber coupler