MICROWAVE 10.5GHZ PHOTON SIEVE DIFFRACTION LENS

SKU: frm-mw-105-photon-sieve

PRODUCT DESCRIPTION

The Photon sieve is simply THE most advanced diffraction lens known to mankind today.

We build telescopes with mirrors instead of lenses because lenses become incredibly heavy and impractical to manufacture once we outgrow a certain diameter.
The Photo sieve is a lens that can be built lighter than any conceivable non-planar mirror. The main application of photon sieves is ultralight, space-deployable and foldable lenses for space telescopes.

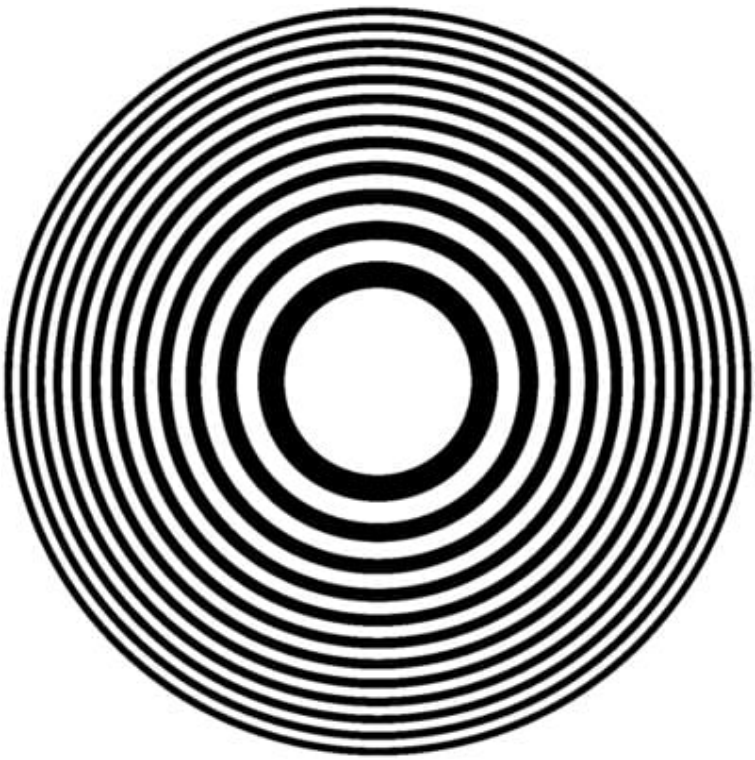
It's also an astonishing, counter-intuitive object that will sure to put a perplexed and thrilled smile on everyone's face.

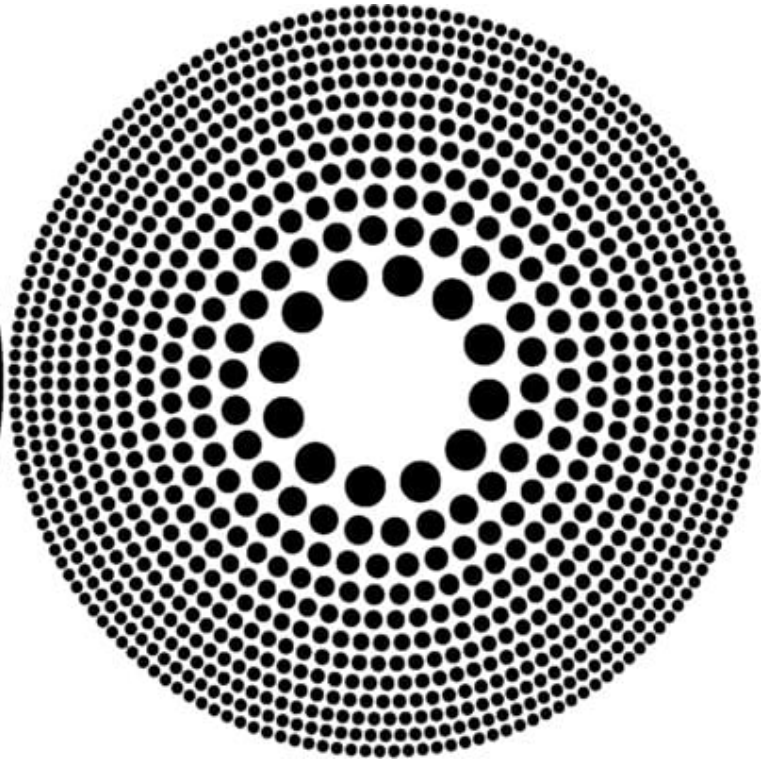
This lens is made from copper on dielectric glass fibre and epoxy resin substrate and is coated with red epoxy resin. The copper geometry has been manufactured with extreme precision (0.02mm) and tailored to the specific frequency of our apparatuses. Papers and references:

- Large optical photon sieve, Geoff Andersen
- Wikipedia
- FalconSAT-7 solar imager
- NASA Team Begins Testing of a New-Fangled Optic, 2016

Difference between a Photon sieve and a Zone Plate (fresnel) lens

Photon sieves have two big advantages over zone plate lenses. Firstly, the position of their holes can be tweaked to a large extent to attenuate the n order focus point. Secondly, they can be manufactured from one single sheet of reflecting material without need for a dielectric substrate.





How it works

Check out this wonderful youtube video by Huygens Optics: