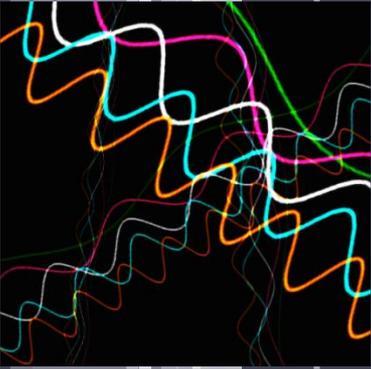
The left side of the slide features a decorative design consisting of several vertical bars of varying shades of gray and blue, and a cluster of five dark blue circles of different sizes arranged in a roughly vertical line.

UNTOUCHABLE

**SPACE-TIME CLOAK INCORPORATING
LAZARS**

Ariel Ouziel



SUPER PHOTONS TECHNOLOGY

Physicists from the University of Bonn have discovered a way to create a “supper photon.” They have created a new source of light by cooling the photon forcing the photon to condense.

First they must heat up the light which is measured by a model called “black body.” This means that the light or bulb is dark until it is heated when it begins to give of light at different wavelengths depending on the temperature.

SUPER PHOTONS CONTINUED

Once the black body cools down, it does not radiate light within the visible spectrum but rather radiates infrared photons. The physicists found that in order to keep the light from disappearing once cooled they photons must be kept moving.

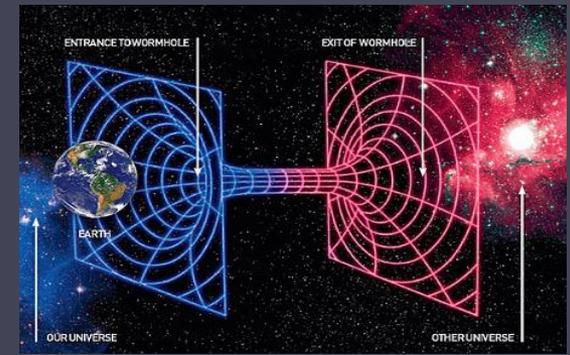
They used two mirrors to bounce the photons back and forth keeping the light visible by the movement.



SUPER-PHOTONS BY HEATING AND COOLING LIGHT WHILE KEEPING IT MOVING



Space Time Cloak Technology



RESEARCHERS FROM IMPERIAL COLLEGE, LONDON ARTIFICIALLY ENGINEERED A METAMATERIAL SPACE TIME CLOAK. THIS MATERIAL IS ARTIFICIALLY ENGINEERED TO DISTORTED LIGHT OR SOUND WAVES BY DEFLECTING PARTS OF THE ELECTROMAGNETIC SPECTRUM.

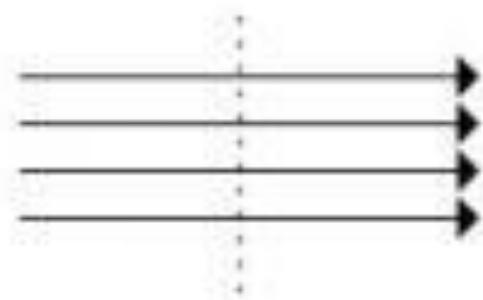
THE METAMATERIAL MANIPULATES PHOTONS TO DISGUISE AN IMAGE OR EVENT FROM OCCURRING BY CREATING BLIND SPOTS. OTHER TIME CLOAKS WOULD BEND LIGHT TO MANIPULATE THE IMAGE, HOWEVER, THESE NEW METAMATERIALS ACCELERATE THE FIRST HALF OF THE PHOTONS AND DELAY THE SECOND HALF OF THE PHOTONS TO ALLOW FOR A GAP BETWEEN THE TWO SETS OF PHOTONS.

SPACE TIME CLOAK CONTINUED

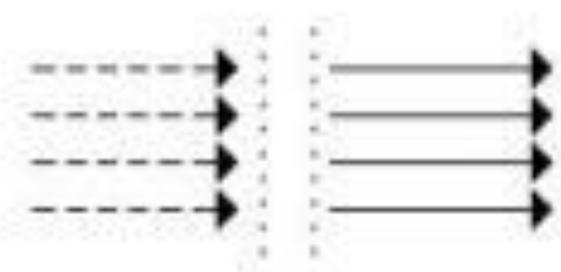
“Light normally slows down as it enters a material, but it is theoretically possible to manipulate the light rays so that some parts speed up and others slow down,” says McCall from the Department of Physics

Then once the gap is no longer needed the accelerated photons return to normal speed and the delayed photons speed up until they have caught up with the first half.

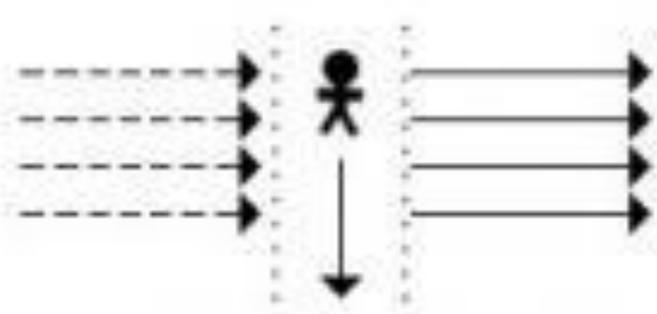




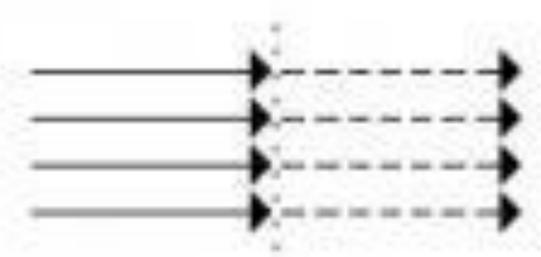
1) Light rays travelling through space



2) The leading part of the light speeds up, whilst the trailing part slows down and lags behind

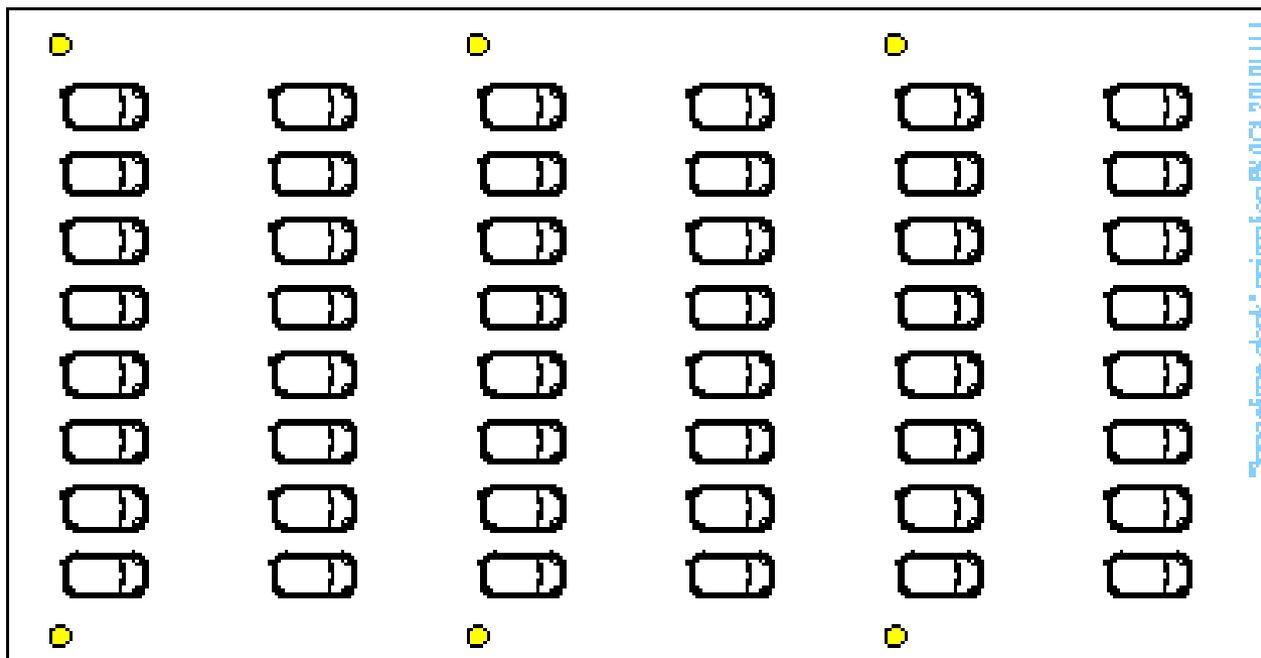


3) This creates a 'gap' in time so that the event can escape detection, with a temporary 'corridor' in which energy, information or matter can be transported undetected



4) The gap closes as the leading part of the light is now slowed down, whilst the trailing part speeds up, leaving no trace of the event. The observer only ever sees a continuous (apparently) uninterrupted flow of light

AN EXAMPLE IS BY THINKING OF LIGHT PHOTONS AS IF THEY WERE STEADY TRAFFIC ON A FREEWAY. IF YOU WANT TO CROSS THE TRAFFIC YOU WOULD ACCELERATE PART OF THE TRAFFIC IN FRONT OF YOU WHILE SLOWING DOWN THE TRAFFIC BEHIND YOU ALLOWING A PATH FOR YOU TO CROSS.



TECHNOLOGY TRANSFORMED INTO GALLERY ART

This gallery art work has put together two new technologies. First we will use the “super photons” for different sources of lazars that are being places through the gallery.

The gallery will be set up like a maze for the viewers to walk through. They will have narrow paths to walk that have the lazars beaming from one wall to the other wall.

Each wall will be covered with mirrors to bounce the lazars off in order to keep the photons moving. The viewers will have to walk through the lazars to get out.

The “super photons” will be used to keep the light source of the lazar changing colors bases on the speed of the beam.

GALLERY CONTINUED

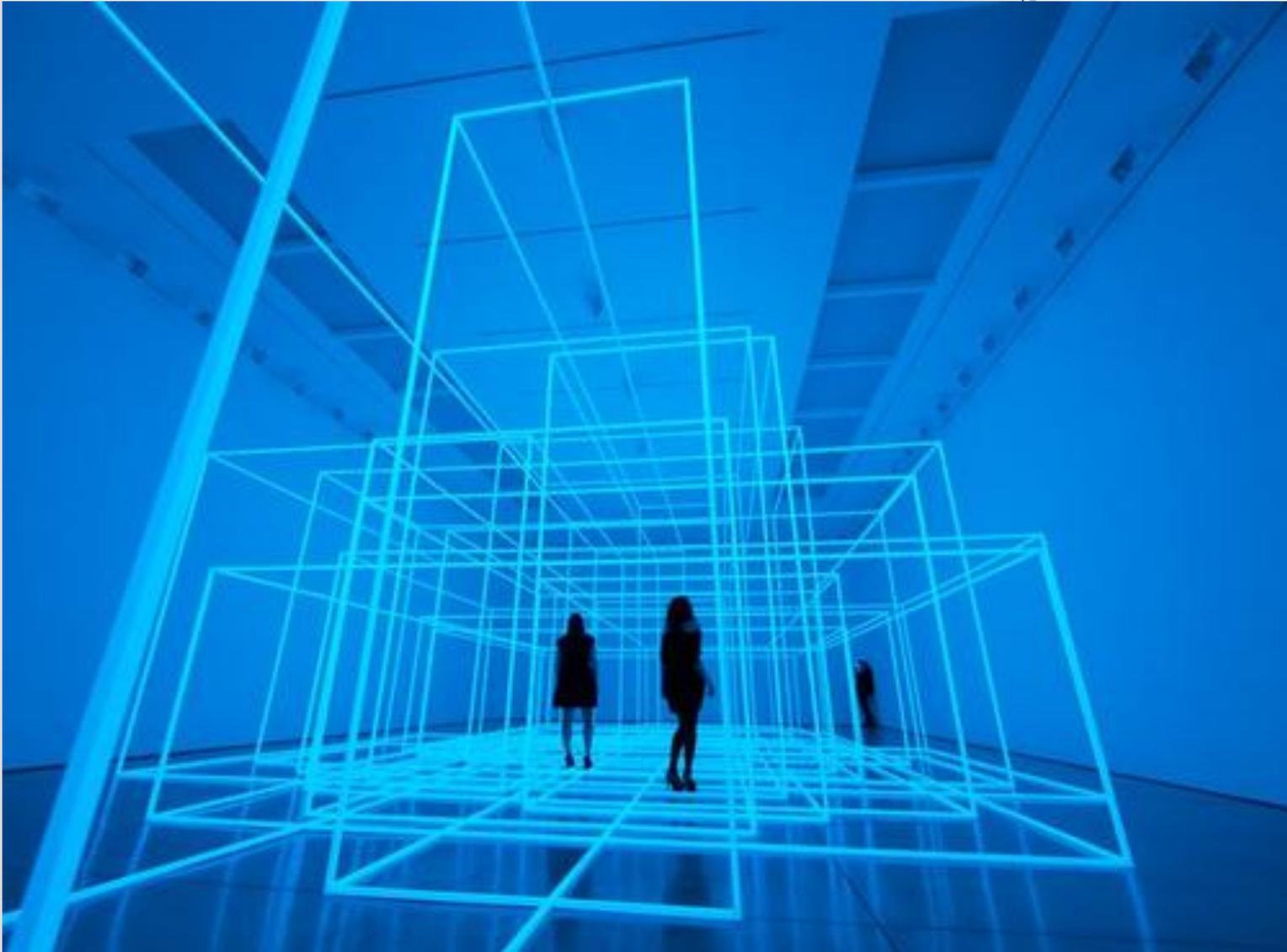
Then we will incorporate the time cloak. The time cloak will also be incorporated into the movement of the lazars based on the presents of each viewer.

The viewer will be asked to try and walk through the gallery without moving out of the way for any lazars, however they will still not interact with the beams of lazar.

The time cloak will be used to speed up the first half of the beaming lazar while slowing down the second half of the beaming lazar allowing the gallery audience to walk through each lazar without being hit by a single one.

In a sense a path will be made for the viewers as they walk threwh the gallery by the time-cloak.

Lazar Prism Art
Installation





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