FEMTO PHOTOGRAPHY

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Harold Edgerton created amazing photo in 1964. He made a picture of the bullet that pierces to an apple with an exposure of just a million of a second. But now, fifteen years later, we can go in a million time faster and see the world not in a million or even a billion, but in a trillion frames per second.

New technology is so fast, that we can create slow-motion video of light in motion. With this technics we can create cameras which can look around the corners beyond line of sight or see inside our bodies without x-ray.

How does it work? Scientists did an experiment. Beam of light is coming out of laser and is scattered in all directions. When photons encounter obstacles, they are reflected and some of them returned to the camera. Distance to the various obstacles is different that is why the photons back to the camera at different times. With this data, scientists have a 3D image of the object, found even around the corner. This process is so fast that we get the information immediately.

In future, with this technics, we would create cars, that can avoid collision. We would find survivors in difficult conditions, for example, in the fire or during an earthquake. Also, we would build the endoscope, that can see deep inside the body or the cardioscope with a femto-camera.

This idea has a lot of limitations and still needs a lot of work on it. But at the same time it gives us a lot of prospects and chances to solve a lot of problems in different spheres of life. People in all of the world have to think how they can use this technology to benefit humanity.

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