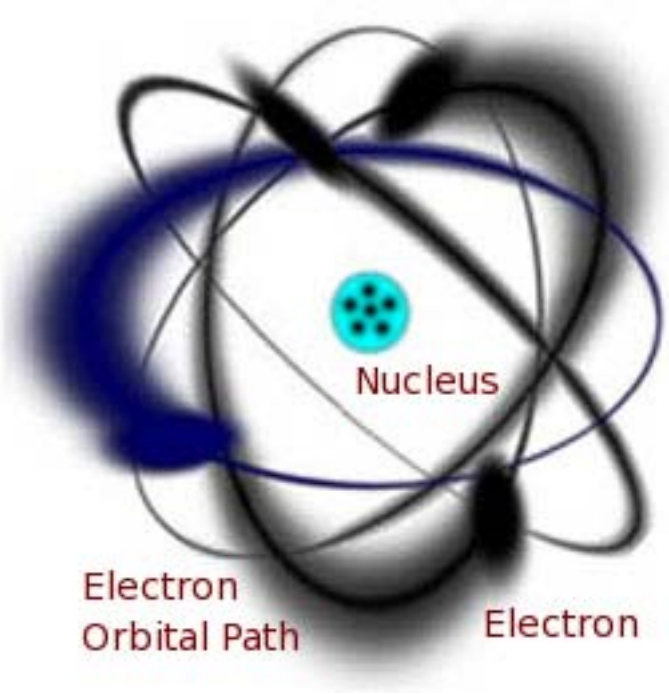
The Physics of Light: a brief introduction

- Light and photons are not only created by fire and heat. Photons created by biological organisms are called “biophotons”. These photons behave in ways never imagined before by earlier physicists

- We owe most recent insights and discoveries to physicist Fritz-Albert Popp, PhD from Germany, Dr. Li from China and many other Chinese and Russian researchers

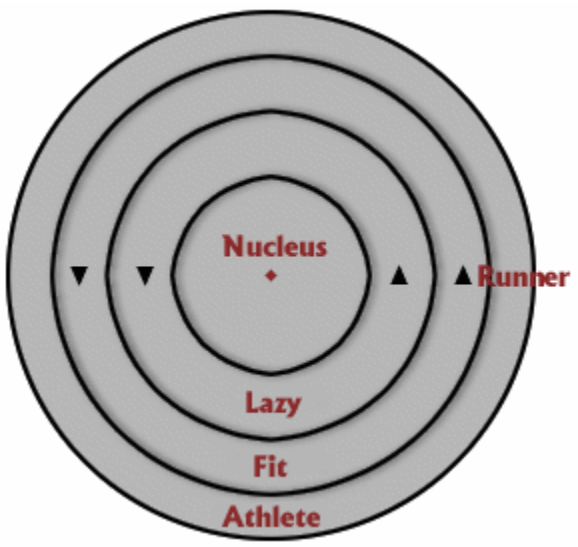
Dietrich Klinghardt MD, PhD

Physics of light: where are the photons?

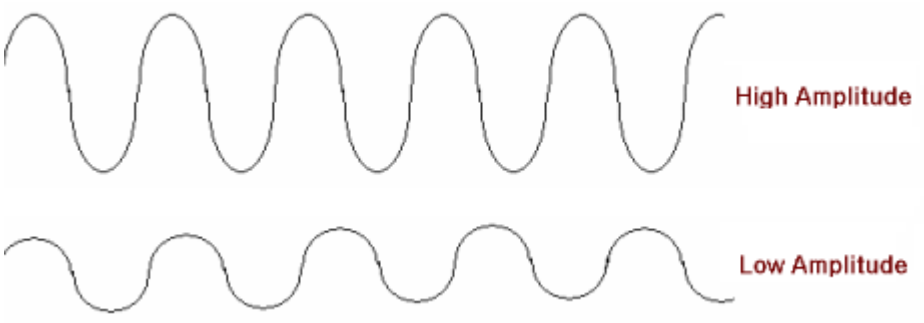


Physics of light: **energy** levels

The outer electron-orbits carry more energy – so do their associated photons. If a molecule is stimulated by any form of resonant energy, electrons tend to move to higher ground and the entire biophoton field becomes energized



Physics of light: amplitude (or strength)



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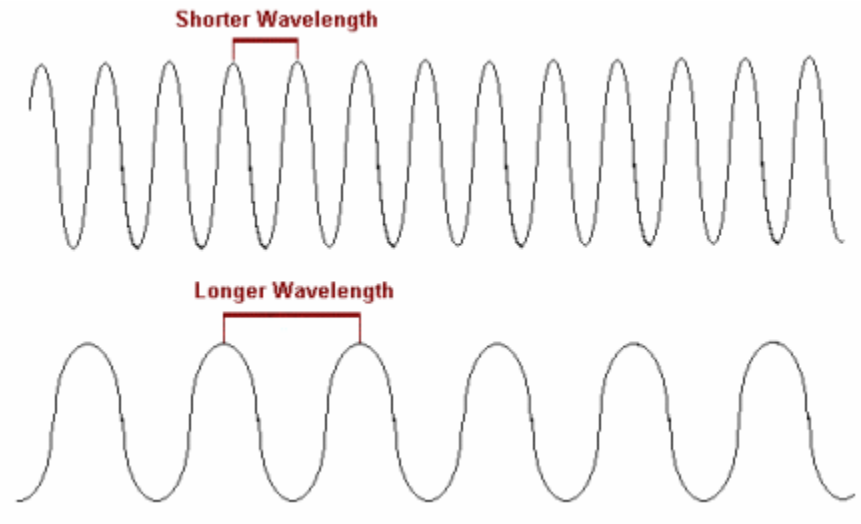
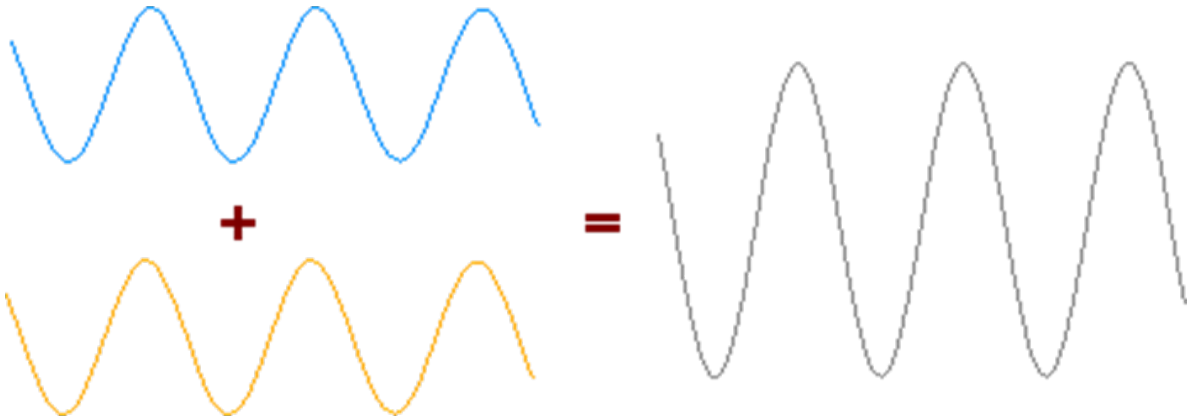
Physics of light: **wavelength**



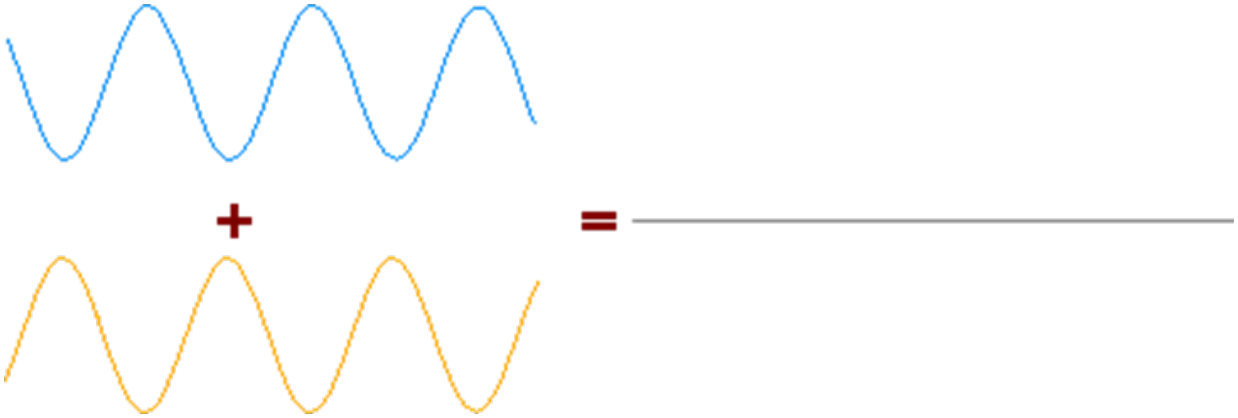
Physics of light: **constructive interference**

- Both waves are “in phase”- both have the same frequency and the top and bottom of the curves coincide in time and space

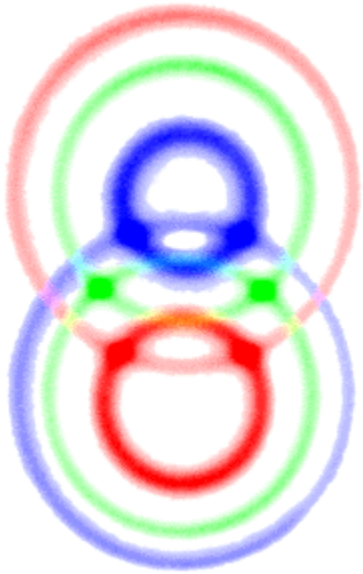


Physics of light: **destructive interference**

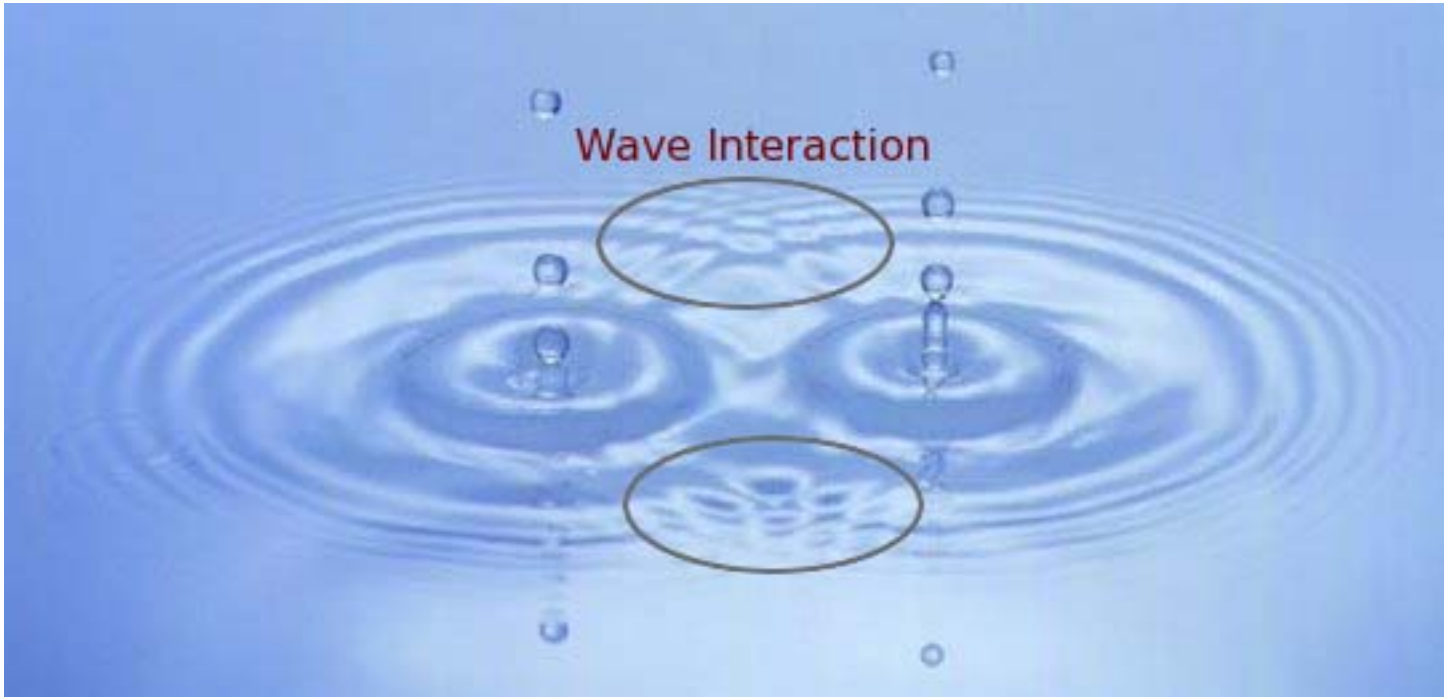
same frequency, same time and space, waveforms are mirror image of each other - precondition for coherent state



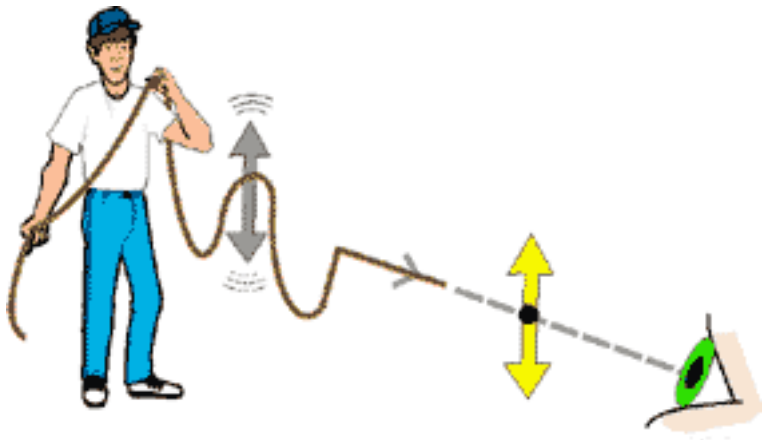
Physics of light: **interference** patterns



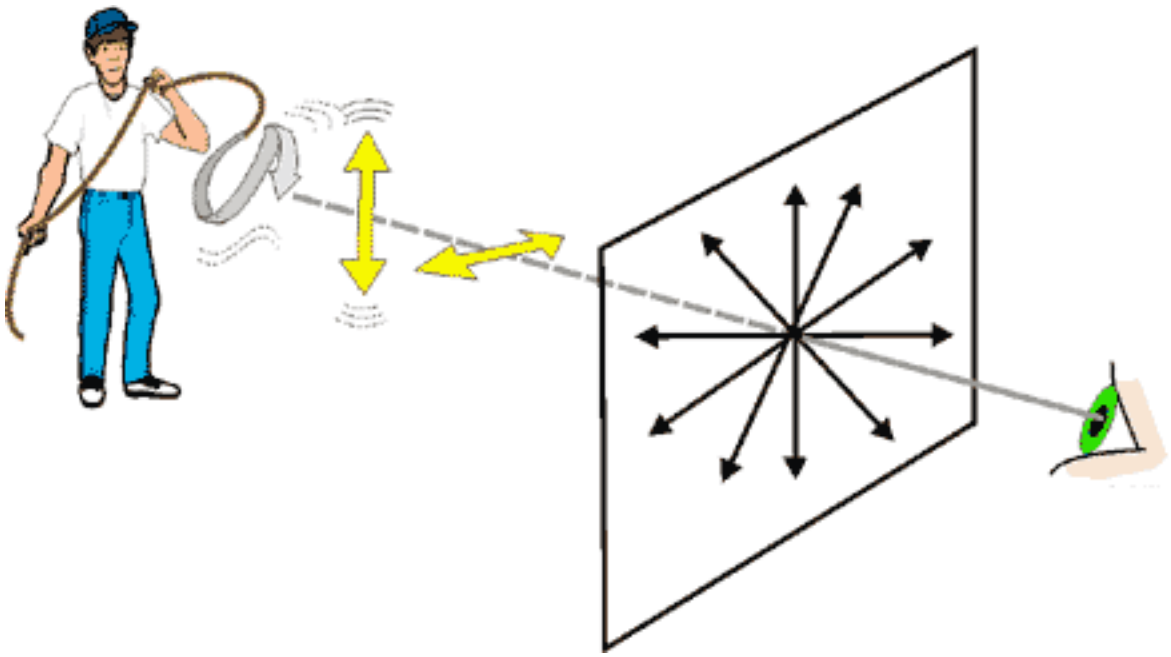
Physics of light: **interference** patterns



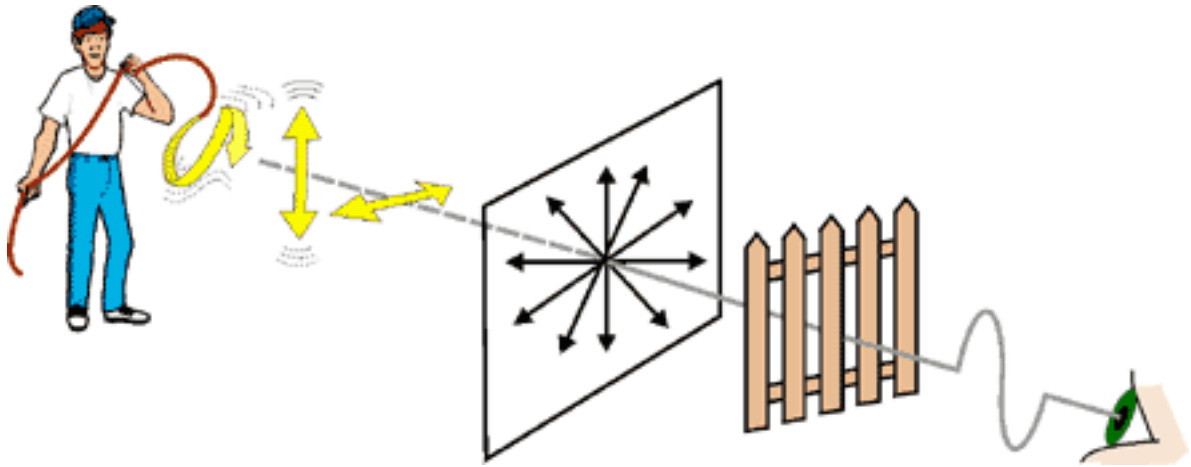
Physics of light: **polarization** in a single plane



Physics of light: multiple planes of **polarization** (chaotic, ambient light)



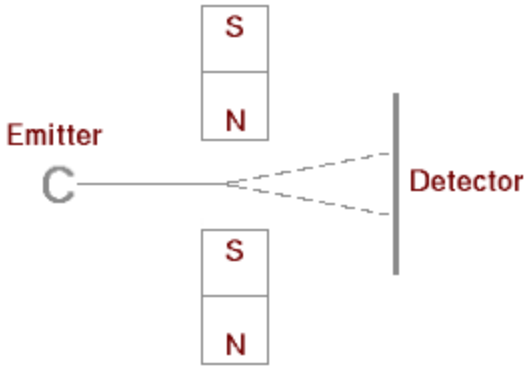
Physics of light: the function of the **polarization filter**



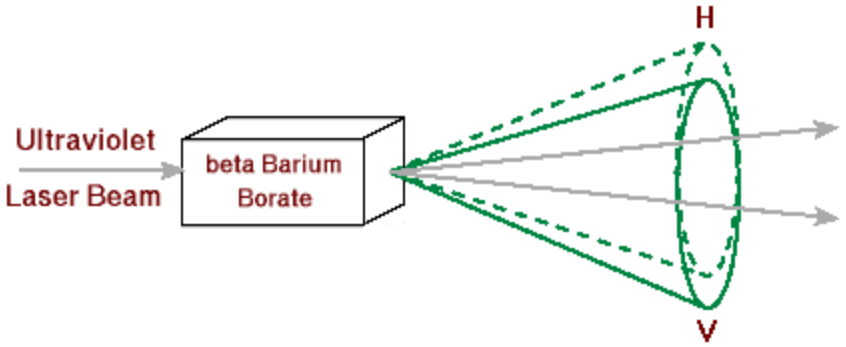
Physics of light: 90 degree angle of 2 linear **polarization** filters

Physics of light: electrons and photons have **spin**

Physics of light: electrons and photons respond to **magnetic fields**



Physics of light: divergence of photon direction ("**scatter**") after encountering obstacle



Physics of light: “**Squeezed Light”**

- As the electrons form a cloud around the atom, the biophotons are related to an electron and can be imagined in a similar cloud around the electron- but they cannot be located simultaneously in time and space

- If biophotons are observed – and therefore “fixed” - in time (with an instrument or eye), they are in that moment in contact with infinite space

- If Biophotons are located in space, they are in contact with eternal time – past and future

- Only biophotons have this property, which is called in biophoton physics “squeezed light”

Physics of light: a brief introduction

- No energy is spend or consumed in this state. Light in the coherent state is highly polarized, in phase and squeezed
- The main sender for biophotons in the cells is the DNA, the receiver (also in the matrix) is the tubulin
- When a cell looses its coherence (the ability to create, send or receive coherent light), the involved physical tissue becomes dysfunctional or ill
- Any structure or tissue that is injured or ill looses its coherent light emissions
- The more unwell a tissue the more in-coherent the biophoton emissions
- Biophotons cross all tissues easily (highly selective frequencies)

The physics of light: a brief introduction

- Biophotons are only emitted and received by living healthy cells
- Cells communicate with each other with biophotons
- Cells adjust the physical properties of their light emissions, so the outgoing waves are the mirror image of the incoming waves from the neighboring cell and from the common shared field (“destructive interference”)
- This accomplishment of a healthy organism is called: “**coherent state”** and can not be achieved by man made instruments, including the best current lasers. Our best lasers emit light that is by a factor of several million times less organized.

  This state allows rapid (speed of light) information transfer needed in all healthy biological organisms
- Each single biophoton can carry more information then all the combined knowledge of all libraries of our world (the property of “squeezing” allows this)

- The summation of the light emissions of all cells and tissues creates a common shared field (biofield) - using all physical properties of biophotons:

  wavelength, amplitude, scatter, spin, constructive and destructive interference, squeezing, polarization and coherence

- This common shared field carries the information and memory of all events the organism has been exposed to and is able to access the past, the future and any location in the universe. It is highly intelligent, has access to unlimited knowledge and is always in closest contact with each cell and tissue of the body. It is the central regulating agency for all metabolic processes in the body. It is responsible for activating the DNA methylating and demethylating processes, folding each of our 30 000 enzymes in approximately 1000 different variations each, activating the fibroblasts in the matrix and much more

- The receiver for this field in the matrix and in the cells is the tubulin, which is most abundant in nerve cells

Physics of light: a brief introduction

- The most light-sensitive structures are the unmyelinated fibers of the ANS and the c-fibers of the nociceptive system
- Acupuncture points and autonomic centers are both specialized light emitting and light receiving transmitters
- It is possible with ART to determine, which tissues have lost their coherence, why they lost it- and what is needed to restore it