

# What a photon really is:

A photon of energy is derived from the release of binding energy between a spin up-spin down electron pair. **Only** a spin up and spin down electron, spinning in the same spin plane, having both orbitals of the same size and configuration (*same impedance*) -- on different atoms -- can create a *sigma* bond between them.

"**sigma bond.**" Encyclopædia Britannica. Encyclopædia Britannica 2009 Deluxe Edition. Chicago: Encyclopædia Britannica, 2009.

"in chemistry, a mechanism by which two atoms are held together as the result of the forces operating between them and a pair of electrons regarded as shared by them. In a sigma bond, the electron pair occupies an orbital-a region of space associated with a particular value of the energy of the system-located mainly between the two atoms and symmetrically distributed about the line determined by their nuclei."

You have to realize, though, that this *sigma* bond is extending the orbitals in both of these bound electrons because this *sigma* bond is pulling both electrons further away from their nuclei.

If one of these electrons is in a high enough energy area then enough energy will be available to finally sever this *sigma* bond.

A *quantum* of energy is released as this *sigma* bond is severed. If one of these electrons is in a low energy area and is set up as a detector (as in your eye) then as the *sigma* bond is released, its orbital size decreases and the detector (your eye) now receives the *quantum* of energy released from the severed *sigma* bond. This

The following is probably the first accurate presentation anywhere of what a photon really is:

is binding energy ( $E=mc^2$ ).

btw all these *sigma* bonds have the same strength all the way out to the Hubble limit where they abruptly cease.

Only the numbers of these bonding pairs decrease as the square of the distance.

For the reason that this *sigma* type bonding of a spin up-spin down pair is the stronger of the two types of bonding in chemical bonding but the weaker of the two in magnetic bonding see: <http://www.amperefitz.com/schrod.htm>

Also see: <http://www.amperefitz.com/photon.htm> and <http://www.amperefitz.com/aphaseuniverse.htm>

and <http://www.amperefitz.com/principle-of-equivalence.htm> and <http://www.amperefitz.com/acceleratingexpandinguniverse.htm>

For a more complete picture of what is happening in our universe click this link: <http://www.rbduncan.com/schrod.htm>

and web sites at <http://www.amperefitz.com> and <http://www.rbduncan.com>

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