Re: Calc. energy harmonics

Source: http://sci.tech−archive.net/Archive/sci.physics/2007−11/msg00898.html

- *From*: "hhc314@xxxxxxxxx" <hhc314@xxxxxxxxx>
- *Date*: Mon, 12 Nov 2007 14:17:35 −0800

On Nov 12, 2:26 pm, Paul Cardinale <pcardin...@xxxxxxxxxxxxxx> wrote:

> On Nov 11, 8:40 pm, Jim Slatter <jimslat...@xxxxxxxxxxxxx> wrote:
>
> > For example, an RF
> > fundamental and the
> > frequency obtained by
> > dividing
> > it in successively in two 20
> > or 30 times.
> >
> > Thank you,
> >
> > Jim Slatter
>
> Wouldn't that depend on the shape of the
> waveform?

Indeed it does. Pure sine waves, for example, have no harmonics. A
distorted sine wave has harmonics proportional to the percentage of
distortion.

Harry C.

> I am referring to a "resonant" frequency irrespective of waveform.
> Here is a specific example. I have two separate signals of equal
> amplitude. One is a 1GHz sinewave, the other is 1GHz divided by 2
> twenty times to produce a distant lower octave.
>
> How do I calculate the _proportion_ of energy density of the distant
> octave compared to that of the fundamental, assuming all else is
> equal?
>
> Jim Slatter

There is no general relationship between frequency and energy.

Paul Cardinale− Hide quoted text −

− Show quoted text −

Paul, I won't attemp to argue with you in this case, since it deals
with long wavelngths and in this context your comment is correct.

Still, be very careful about generalizing thing too far. I've read
your posts now for a number of years, and I am quite sure that you are
familiar with Planck's Law, i.e: q = hv.

Still, I would agree with you that it has nothing to do with this
thread, which actually does raise a good question. I really cant help
it if that answer to the questin is covered in textbooks, but still
it's a good question. Actually a better question than we generally
see posted tody on sci.physics.

Paul,. do your recall the days when even most physicists were
intimidate from posting on this particular newsgroup? Wow, have times
changed.

Harry C.

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