

Re: 2nd law of thermodynamics in question

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 - *Date:* Wed, 15 Nov 2006 17:25:55 +0000
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In message <1163609002.714910.60180@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>, Paul <softwarelabus@xxxxxxxx> writes

[...]

>
>Your definition of "isolated system" does not pertain to magnetism or
>gravity???

It pertains to matter and energy.

Ah, so you allow magnetic fields to enter and leave the isolated system, but not a moving magnetic field. Surely know how silly that would be.

Take it up with Carnot, Kelvin, Boltzmann et al. They formulated it.

How would you propose a legitimate 2nd law of thermodynamics experiment to achieve that?

That's your problem. You need to find a formulation of the 2nd Law that doesn't imply conditions you can't achieve. Then you can formulate a detailed question and stick to it.

[...]

>> >> > That's why dear
>> >> >Richard an oscilloscope can display power across a load if you
merely
>> >> >pre-enter the loads resistance. :-)
>> >>
>> >> So if I have a signal generator connected to a 50 ohm resistor via a
>> >> coaxial cable, with a T-connector in the middle, and I let you use your
>> >> oscilloscope to measure the voltage across it, do you think you >>
>>can tell
>> >> me which way the energy is travelling?
>> >

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>> >Yes, I can tell you which way the energy is traveling?
>> >
>> What, with only a single voltage measurement?
>
>Yes, I can tell you if energy is leaving or entering the antenna.

(What antenna? The experiment I described above has a signal generator, a cable and a 50-ohm resistor, and you are permitted to make a single measurement of voltage in the middle of the cable.)

Your original question did not mention "single measurement".

It was implied. You can measure what you see at the open port of the T-connector, nothing else. By "single" I was referring to the place of measurement, rather than the time.

How much
sample time does your "single measurement" constitute?

Take as long as you like.

What are you
measuring— energy in form of a wave pulse, or what?

What you get from an elementary signal generator – an emf varying sinusoidally at a single frequency.

First formulate a
detailed question and stick to it.

I've given all the detail you need.

If you want to know the direction an energy _wave_ pulse
is traversing then you can still do that with one scope probe over time.

Connected to a single point?

Let me know if you need help and I'll describe exactly how?

Go right ahead.

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—
Richard Herring