

Re: Doppler Distortion – Fact or Fiction?

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From: Bob Cain (arcane_at_arcanemethods.com)

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Richard Herring wrote:

> *In message <cglibl0266t@enews4.newsguy.com>, Bob Cain*
> *<arcane@arcanemethods.com> writes*
>
> *[big snip]*
>
>>
>> *Whatcha think?*
>>
> *I think you missed my point about the pressure being a linear function*
> *of piston displacement _evaluated at a retarded time which depends on*
> *the piston's position_.*

Nope, I attempted to describe why it isn't correct in the case of a piston in a tube. Another simple argument for the lack of any kind of Doppler distortion in that situation, assuming SPL's are low enough to keep the air in its linear regime, is that the radiation impedance seen by anything driving the piston is identically the characteristic impedance of the air, real and frequency independent. Given that, where is there room for any error in the process?

>
> *All the physical processes are individually 100% linear, but the outcome*
> *is not.*

Odd, that. I just don't understand how that could possibly be.

Bob

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"Things should be described as simply as possible, but no simpler."

A. Einstein