

Question #303

The "Rijke tube" seen in the photograph at the left below, sometimes called a "hoot tube," is a plastic tube with a nichrome heating coil in the tube about one-quarter of the way up the tube, as seen in the photograph at the right below. When it is activated by passing electrical current through the nichrome wire, it responds by emitting a loud tone, which in this case is the fundamental frequency of the tube acting as an acoustical open tube. Click your mouse on the photograph at the left below to hear the nice sound.



If we heat up the nichrome wire so that the Rijke tube emits its tone, then rotate the tube so that it is horizontal:

- (a) How will the loudness of the tone change, if at all?
- (b) How will the frequency of the tone change, if at all?

What will then happen when I return the tube to its initial upright orientation?

Click here for [Answer #303](#) after January 28, 2008.

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For questions and comments regarding the *Question of the Week* contact [Dr. Richard E. Berg](#) by e-mail or using phone number or regular mail address given on the [Lecture-Demonstration Home Page](#).