

## Re: To Androcles and Henry: Ballistic Doppler Shift Equation

**Source:** <http://sci.tech-archive.net/Archive/sci.physics.relativity/2005-01/3212.html>

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**From:** Henri Wilson (*H\_at\_..(Henri)*)

**Date:** 01/16/05

Date: Sun, 16 Jan 2005 21:34:46 GMT

On 11 Jan 2005 05:14:51 -0800, "Thomas Wong" <nonfunctional\_email@comcast.net> wrote:

>Hi, Everybody!

>

>I'm in my ultrafast spaceship traveling with my buddies Androcles and

>Henri on a tourist trip to Uranus. It will take us only a few hours to

>reach our destination, because our ship is capable of reaching NAFAL

>(nearly-as-fast-as-light) velocities.

Velocities are always relative. I gather you mean 'wrt Earth'.

>We're in no real hurry though,

>and we don't want to waste our supply of antimatter fuel, so right now

>the speedometer says that we're driving slowly at only 35,940 km/s away

>from Earth.

>

>The driver gets to choose the radio station. I'm in the driver's seat

>so I tune the radio to my favorite Houston oldies radio station KLDE-FM

>(107.5).

>

>Unfortunately, what is coming out of the speakers is COUNTRY!

>

>Ahah, I know what is going on! Doppler shift!

>

>Out of curiosity, I want to find out what station I'm listening to.

>

>The relativistic Doppler shift equation is

> $f/f_0 = \sqrt{(1-v/c)/(1+v/c)}$

>and when I plug the spaceship velocity into the equation, it tells me

>that I'm tuned to KHYT (95.3).

>

>Androcles looks at me sort of funny.

>

>Henri screws his mouth up.

>

sci.physics.relativity: Re: To Androcles and Henry: Ballistic Doppler Shift Equation

- > *"Uh, Tom," says Androcles. "The relativistic Doppler shift equation is*
- > *wrong. Light travels ballistically."*
- >
- > *To Androcles and Henri:*
- >
- > *1) What is the Ballisti*