Kerbal Space Program - Feedback #13406

Commnet science transmission bonus is out of whack.

12/10/2016 05:23 PM - Streetwind

Status:	New		
Severity:	Low		
Assignee:			
Category:	Gameplay		
Target version:			
Version:	1.2.2	**Language:**	English (US)
Platform:	Linux, OSX, PS4, Windows, XBoxOne	**Mod Related:**	No
Expansion:			

Description

Today, it occured to me to ask myself: hey, I get a science transmission bonus for using a strong connection, right? But how much do I actually get, and how does it scale with signal strength? The first question is easily answered: the bonus is 40% at maximum signal strength.

The second question... well, not so easily answered.

From 100% to 82% signal strength, the bonus is a fixed 40%.
From 82% to 81% signal strength, the bonus drops sharply to 29%.
From 81% to 46% signal strength, the bonus decreases smoothly at a rate of about 1% bonus lost per 3% signal strength lost.
Therefore, at 46% signal strength, the bonus is 19%
From 46% to 45% signal strength, the bonus drops sharply to 1%.
From 45% to 36% signal strength, the bonus remains fixed at 1%.
From 35% signal strength downwards, there is no more bonus.

Here's a handy graph: https://dl.dropboxusercontent.com/u/44754370/sciencebonus.png

It does not seem to follow any discernible design logic or mathematical relationship, as far as I can tell. The scaling doesn't use the entire range of signal strength. The curve alternates between no scaling, tiny steps, smooth scaling and drastic jumps seemingly at random. The large section with 1% serves no purpose, considering it's sandwiched in between a large section with 0% and a jump to 19%.

If this is a bug, it is not new in 1.2.2; I also tested this in 1.2.1, and it was the same. If this is not a bug, I'd like to suggest a change.

KSP prides itself with being a game that teaches, and rewards learning. But with this particular system, there's nothing to learn, no background to understand. You either memorize it exactly without understanding, or you look it up over and over again by running a science experiment and looking at the number that pops up. It seems to me that the game would be better served by having a system in place that can be understood by the player, such as:

Option 1: discrete steps for the bonus, linked to for example the signal strength UI element. 4 bars = 40%, 3 bars = 30%, 2 bars = 20%, 1 bar = 10%, zero bars = no connection.

Option 2: mathematical relationship. bonus = signal / 2.5 works for a simple linear relationship, but other curve shapes exist - even S-curves, which would be the closest fit to the current values.