## Papandreou Chris

**Από:** Rai Weiss [weiss@ligo.mit.edu]
**Αποστολή:** Τετάρτη, 21 Αυγούστου 2019 10:47 μμ
**Προς:** Papandreou Chris
**Κοινοποίηση:** mwoods@ligo.mit.edu
**Θέμα:** Re: Gravitational Waves: Greek Primary School approach

Chris,
I very much like your classroom demonstration of the way an interferometric gravitational wave detector works. The students pulling on the arms alternately in resonance with the two students dancing around each other is really elegant and gets the point across. What needs more work is the display showing the light getting brighter and dimmer on the screen. The relative motion of the electric fields on the sheets of paper is a good idea, the students moving these need to have a better way of sliding the pieces of paper so they stay synchronized with the dancers and the space stretchers and squeezers. You need a good piece of music to keep this ballet together. I much enjoyed watching this. Thank you for sending it.
Rainer Weiss

On Wed, 21 Aug 2019, Papandreou Chris wrote:

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> Dear Professor Weiss,
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> Two days ago, I finished reading the last book of Stephen Hawking “Brief Answers to the Big questions”.
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> Your friend and colleague Mr. Kip Thorne, described in his
> introduction, the period of your discussion about black holes and his decision to join you and research gravitational waves using your Interferometer!
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> Not only did i enjoy the book, but it was a source of inspiration!
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> Two years ago (August 2017), I participated with 9 other colleagues from Greece in a 5 day educational particle physics workshop at CERN called “Playing with Protons”.
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> https://indico.cern.ch/event/618792/
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> It is a little bit difficult for primary school teachers to attend such a program as this kind of education is being offered especially to secondary school teachers.
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> It was like an Apocalypse to me!
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> When I return back to Greece, not only did I apply this valuable
> knowledge to my pupils (of course according to their age and level) but I tried to produce something innovative and new for them, taking into account the latest developments in the Physics’ field.
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> It was also the glorious period that you were being awarded the Nobel
> Prize for the Gravitational Waves discovery along with your other two honorable colleagues from Caltech, Kip Thorne and Barry Barish.
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> All that period was full of incentives! I read a lot and watched many
> documentaries and tutorials. One of them was “The Universe Explained to my grandchildren” by Hubert Reeves!
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> I have the honor to present you my work on Gravitational waves as I
> developed it along with my pupils and colleagues at the 7th Primary School of Pirgos, Peloponnese (20 Km only far from Ancient Olympia).
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> I hope that you will enjoy it.
> http://users.sch.gr/papandre/cern/?page_id=1122 and
> https://www.youtube.com/watch?v=0VRg1U4aYf8&
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> Please, if you find something wrong with this approach, do send me your opinion and your proposals in order to improve the material and the method.
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> Looking forward to hearing from you soon,
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> Yours faithfully,
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>
> Christos Papandreou, primary school teacher, Greece
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> https://blogs.sch.gr/papandre/?page_id=182
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