Follow-up to the article:

**How Stable is the Photon?**

Julian Heeck


1. What makes QED a low energy approximation of the GSW model of electroweak interactions? **Norman**

2. What are the possible decay modes of a massive photon and what are the corresponding probabilities? Is energy conserved in these decays? **Nick**

3. How are the bounds on photon charge and the mass determined? What are their current values? **Arbin**

4. What are sterile neutrinos? What experiments have been done to detect them? **Cody**

5. How is the comoving distance of the surface of last scattering $d_L$ determined? Is there a standard conversion factor to go to linear distance? What does the corresponding time scale $\frac{d}{c}d_L$ mean? **Shamin**

6. Do we observe photons with different speeds? **Anthony Paul**

7. How do the equations of Special Relativity (for example, $\gamma = \frac{1}{\sqrt{1-(v/c)^2}}$ and $E = mc^2$) change if the photon has mass and charge? How is the Standard Model affected? **Brian**

8. What is the Stückelberg mechanism? **Bijaya**

9. What is a plasma mass? **Mongi**

10. How, if at all, is the effect of time dilation experienced by photons interacting with the gravitational fields of galaxies (which formed after the decoupling of matter from radiation) accounted for in analyzing the CMB spectrum? **Linda**