

Presentation: Shiv Subedi
September 30, 2020

Question and Answer: Kristyn Brandenburg
October 7, 2020

First direct experimental evidence of CNO neutrinos
BOREXINO Collaboration, arXiv:2006.15115 (2020).

1. Is the metallicity of a star constant throughout its entire lifetime, or does it change?
-Robert
2. How does a change in metallicity change the core, radiative and convective regions.
-Alexandra
3. How is the metallicity determined using the techniques of helioseismology and spectroscopy? What is the cause of the change in values of metallicity over time? Has the precision or accuracy gotten better due to technological advances? -Justin W.
4. How much are the uncertainties constrained in the proton capture process in the CNO cycle and to what extent do these uncertainties contribute to the percentage uncertainty in energy production via the CNO cycle? -Mahesh
5. How was the energy of the neutrino inferred from the energy of the detected electron?
-Joseph
6. How are neutrinos formed in the pep process? How was the pep neutrino rate constrained in the analysis? -Joey
7. How is the multivariate fit analysis they performed tied with the negative log likelihood profile they performed? Why is the negative log likelihood profile preferred for this analysis? -Yenuel
8. Why was this detector used over other detectors? What was different about this detector that was useful for the experiment? -Gula
9. The paper notes that the materials were carefully selected for the surrounding of the scintillator. What was the reasoning for nylon supports, as opposed to another material? -Justin B.