Nuclear Lunch Questions (29th November 2023)

Paper: The NANOGrav 15 yr Data Set: Evidence for a Gravitational-wave Background

1. How was the first indirect measurement of GWs made? (Mike Jeswald)

2. What does the Hellings Down correlation describe? (Bikash Chauhan)

3. Why did the authors assume a $f^{-\frac{2}{3}}$ characteristic strain power law? (Joseph Foy)

4. What is $\gamma$ and why was the $\gamma$ value assumed to be $\frac{13}{3}$? (Alexandra Semposki)

5. What is the phase shift technique and how does it remove interpulsar correlations? (Bradley McClung)

6. What is proper-motion? How can parallax and proper-motion affect the identification of GW signal? (Austin Rambo)

7. What is a dispersion measure model? (Sijan Regmi)

8. Why did the paper use a piecewise-constant dispersion measure (DM) model? Were any other DM models mentioned or used? (Yoon Gyu Lee)