

## Baryon Number Violation in Neutron Stars

*Tuesday 7 June 2022 15:30 (15 minutes)*

Baryon number violation (BNV) has been motivated by and studied in various extensions to the Standard Model. Observation of BNV in experiments would be a clear indication of new physics, which has not occurred so far. The high baryon density in neutron stars may enhance the rates of baryon number violating processes beyond those possible in terrestrial settings. Therefore, it is important to analyze the generic consequences of such processes in neutron stars. I will discuss the BNV effects on neutron stars and their observational signatures, noting, e.g., how binary pulsar period measurements can be used to constrain BNV rates.

**Primary authors:** BERRYMAN, Jeffrey (University of California, Berkeley); ZAKERI, Mohammadreza (University of Kentucky); GARDNER, Susan (University of Kentucky)

**Presenter:** ZAKERI, Mohammadreza (University of Kentucky)

**Session Classification:** Parallel