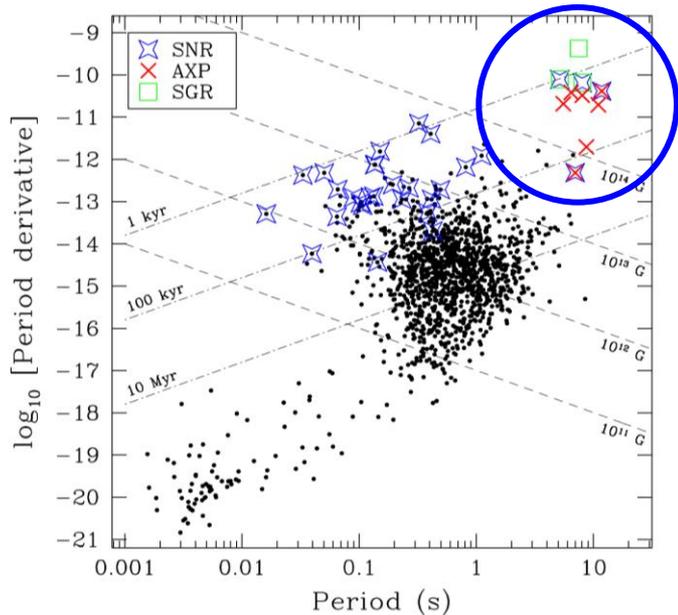


Non-axisymmetric instability of toroidal magnetic fields in neutron stars

Kenta Kiuchi (YITP)

collaboration with Masaru Shibata (YITP), Shijun Yoshida (Tohoku Univ.), and Yuichiro Sekiguchi (NAOJ)



Observational evidences

- Radio pulsars : $B \sim 10^{11-13} \text{G}$ (Manchester 04)
- Millisecond pulsars : $B \sim 10^{8-9} \text{G}$
- Anomalous x-ray pulsars and soft gamma-ray repeaters : $B \sim 10^{14-15} \text{G}$ (Woods & Thompson 04)

Important theoretical issues

- Stability of magnetic fields
- etc.

- Initial condition = toroidally magnetic relativistic stars in equilibria (Kiuchi&Yoshida 08)
- Three dimensional General Relativistic MagnetoHydro simulations
- Parker instability with/without stellar rotations

Please see my poster No. 33. Thank you
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