

[KST-13] **Non-axisymmetric Instabilities of Rapidly Rotating Neutron Stars**

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We study the evolution of rapidly rotating neutron stars numerically. The initial equilibrium stars are perturbed by changing parameters of the polytropic equation of state to mimic the phase transition of neutron stars to quark stars. The perturbed stars near the critical rotation parameter have bar-mode instability even for initially stable stars. The resulting gravitational wave emissions are calculated from the analyses of quadrupole moments. Observational implications are discussed briefly related to the future interferometric gravitational wave detectors

[KST-14] **Spectropolarimetric observations for Be stars**

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Be stars are spectroscopically normal B-type main sequence stars with hydrogen and some metal line emissions and known as very fast rotators. Their emission lines are formed at their disk surrounding Be stars which could be related with the magnetic fields. While the rapid rotation imply no strong magnetic fields were involved during their early evolutions. However until now, weak magnetic fields have been observed in only few Be stars. We have observed 15 Be stars using 1.8m telescope at Bohyunsan Optical Astronomy observatory (BOAO) with BOESP (BOao Echelle SpectroPolarimeter) in February 2008. The preliminary results of the magnetic fields in Be stars are presented.