

# Pulsar magnetosphere and emission

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The structure of pulsar magnetospheres depends on the binding energy of matter on the stars' surfaces as well as the distribution of the particles in the magnetospheres. For example, in the high binding energy case, inner gaps (core, annular, or the both) can be formed. But in the low binding energy case, no such gap could work any more. Here all possible situations are considered. The emission mechanisms for both in radio and  $\gamma$ -ray are discussed under different magnetospheric structures. It is addressed that one could distinguish normal neutron or bare quark stars by their different radiative features in multi-wave bands.