On the Interaction Radius in the Magnetic Compact Star

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Abstract

The interaction between the magnetic field and the accreting matter in the magnetic compact star has taken into account in order to find some constraints between physical paramerters in these systems. We show that the interaction radius, where the matter begins to funnel in the magnetosphere, can be described as a function of the magnetic moment, acctetion rate and the width of the interaction zone. This radius, after estimated iteratively for a given parameter set, has been used in order to study the radiation of X-rays in the magnetic compact star. Some results of such study in context with the interaction radius in the intermediate polar have been discussed.