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How does Carter flux may affect the resonance crossing in an EMRI inspiral ?

In this talk, I will discuss the resonance crossing in an Extreme Mass Ratio Inspiral (EMRI). By assuming a charged particle moving in an external homogeneous magnetic field under the electromagnetic self force (ESF), we discuss how it encounters the resonances. In a past work, we compare the resonance timescale between ESF and its adiabatic counterpart, and obtain a qualitative similarity. Here, we will discuss how the inclusion of Carter's flux would affect this timescale. Given that the system is non-integrable, it holds useful similarities with more realistic EMRI models, such as with secondary's spin. Not to mention that environmental effects may also be non-integrable in general, and our work may be useful to address long-lived resonances in those systems.

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