



Contribution ID: 20

Type: **not specified**

Energy conservation and axion back-reaction in an external magnetic field

Tuesday, 12 September 2023 17:00 (15 minutes)

Coherently oscillating axion clumps can in an external magnetic field emit electromagnetic radiation which causes them to decay. In the presence of plasma, such radiation can become resonant if the clump frequency matches the plasma frequency. In this talk, I discuss how backreaction affects the clump frequency over time enabling clumps with a range of different initial frequencies to become resonant at some point in their time evolution.

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Session Classification: IDM: Indirect DM searches

Track Classification: Indirect DM searches