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## **Effect of CP violation in the singlet-doublet dark matter model**

*Thursday 22 June 2017 17:15 (15 minutes)*

We revisit the singlet-doublet dark matter model with a special emphasis on the CP violation effect on the dark matter phenomenology. The CP violation in the dark sector induces a pseudoscalar interaction of a fermionic dark matter candidate with the SM Higgs boson. The pseudoscalar interaction helps the dark matter candidate evade the strong constraints from the dark matter direct detection experiments. We show that the model can explain the measured value of the dark matter density even if dark matter direct detection experiments do not observe any signal. We also show that the electron electric dipole moment is an important complement to the direct detection for testing this model. Its value is smaller than the current upper bound but within the reach of future experiments.

### **Presentation type**

Parallel talk

**Primary author:** Dr ABE, Tomohiro (Nagoya University)

**Presenter:** Dr ABE, Tomohiro (Nagoya University)

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