

## SLACmass Dark Sector: Ultralight Dark Matter

During Peter Graham's talk

Q: What is lower edge of QCD axion line at  $m_a \sim 10^{-12}$ .

A:  $m_a$  inversely proportional to high energy scale.  $10^{-12}$  is from Planck mass

Q: Is there a prediction for DM density for the QCD axions

A: There are a variety of possible production mechanisms for all allowed QCD axions that give the right relic density. But no generic mechanism

Q: What about circular dichroism based experiments

A: Interesting experiments/idea, but not generally sensitive to QCD axion. Not currently at SLAC

Discussion about CMB bounds. Very recent idea. Effect at surface of last scattering is nearly at cosmic variance limits. Other effect amounts to change in measured CMB polarization over time - hasn't been yet looked for in data, and sensitivity not understood.