

Searching for Dark forces (kinetic mixing portal)

The model

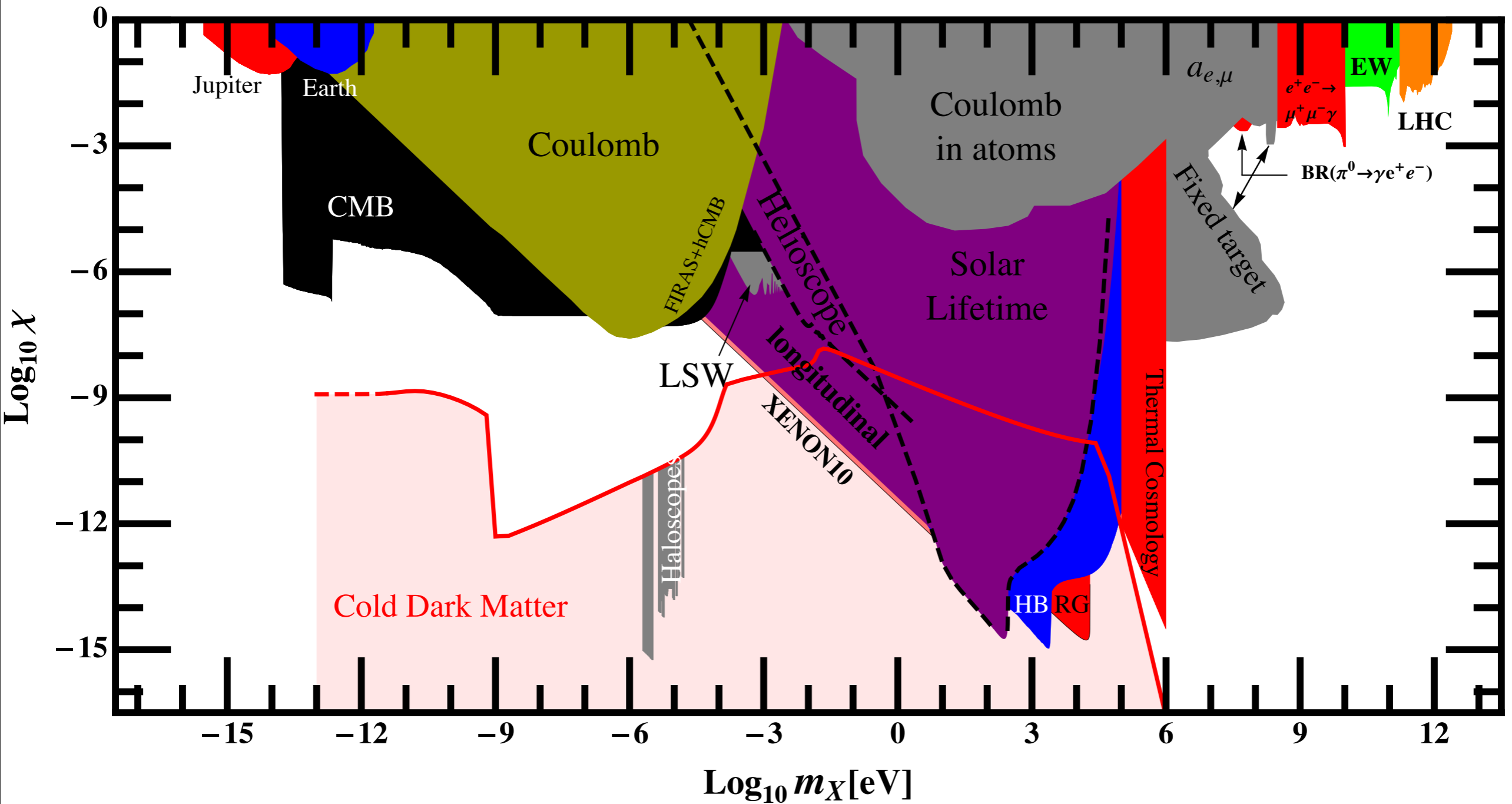
QED

$$\mathcal{L} = -\frac{1}{4}F_{\mu\nu}F^{\mu\nu} + ej_{\mu}A^{\mu}$$

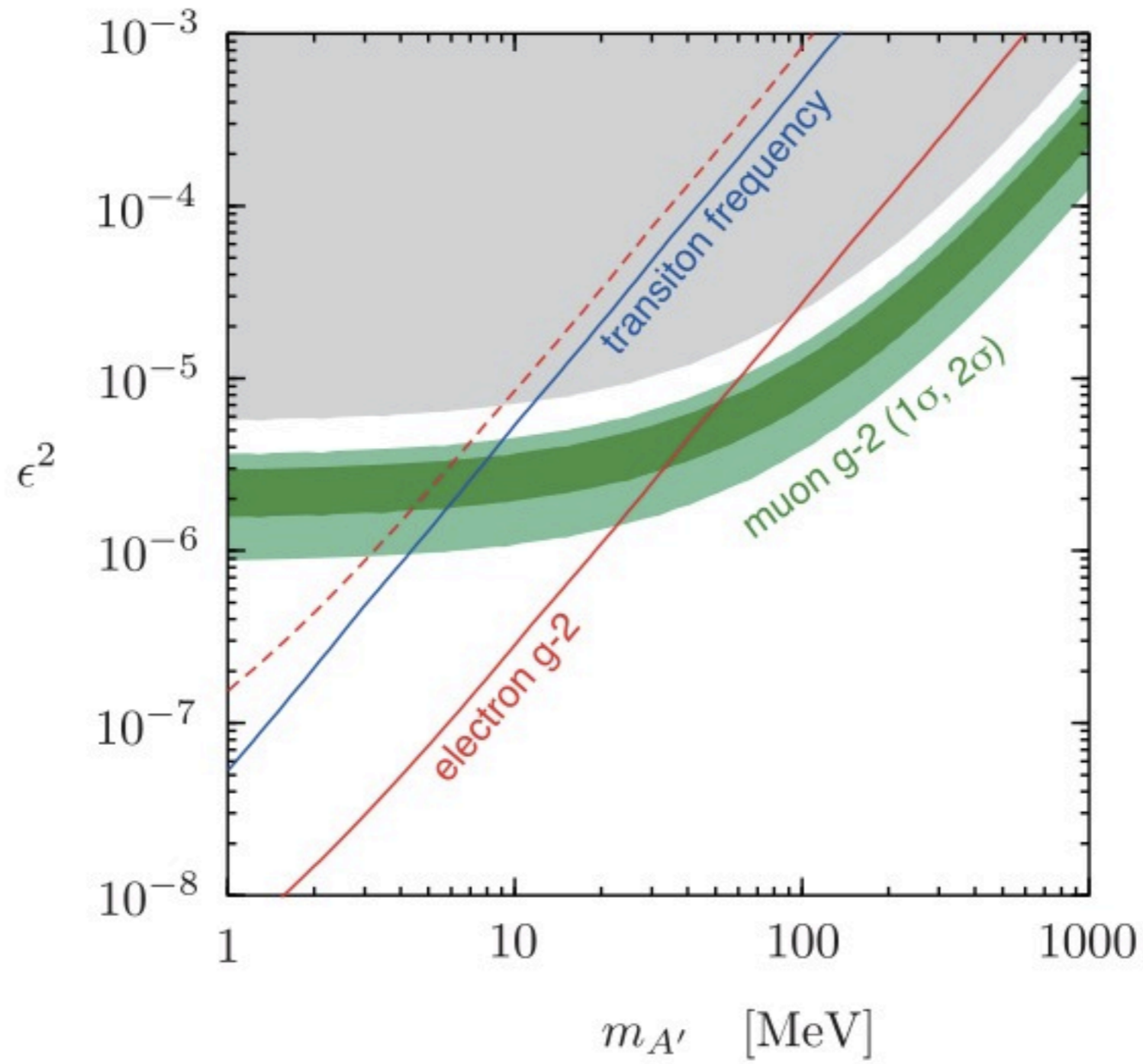
QED+mQED'

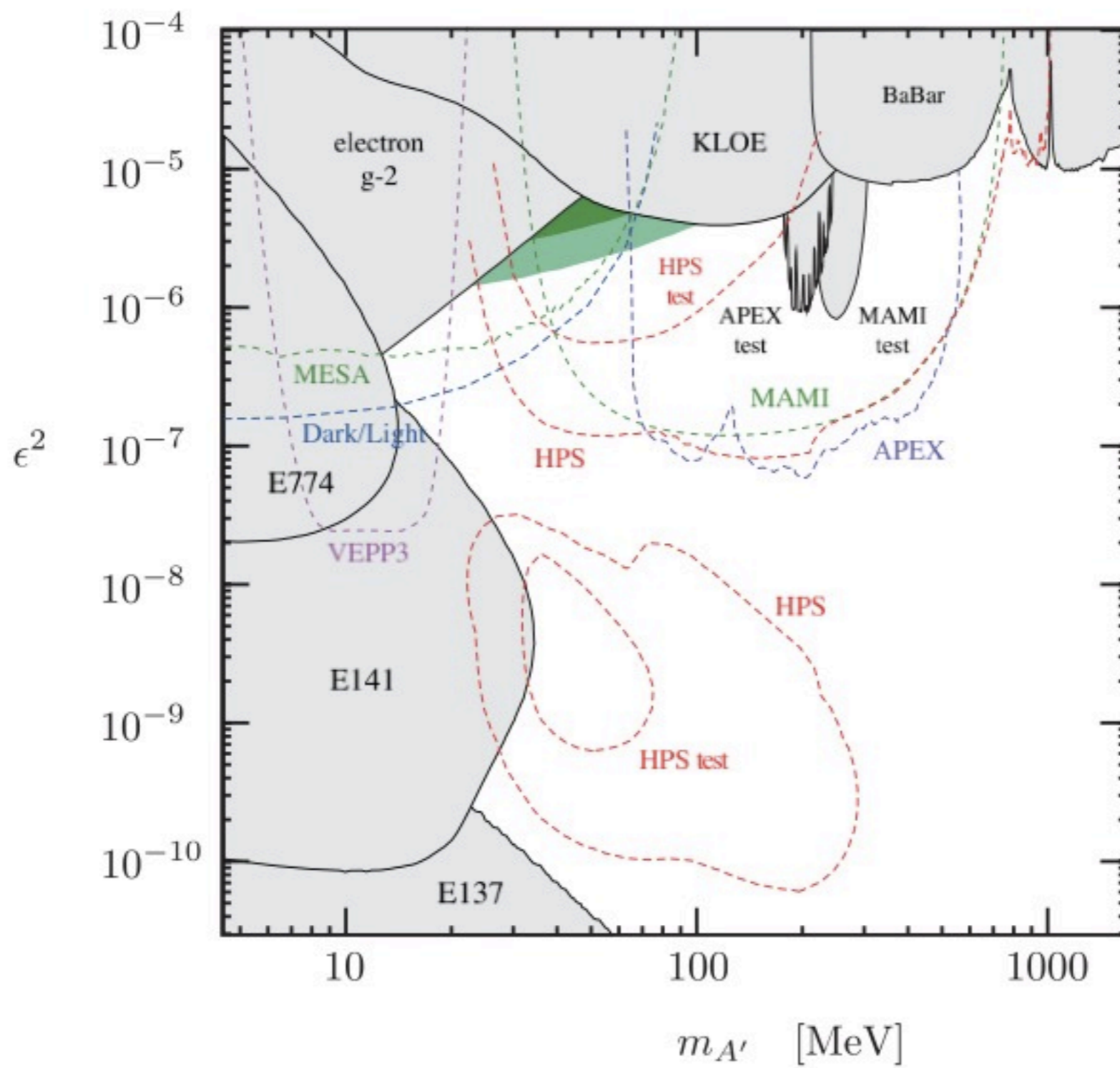
$$\mathcal{L} = -\frac{1}{4}F_{\mu\nu}F^{\mu\nu} + ej_{\mu}A^{\mu} - \frac{1}{4}X_{\mu\nu}X^{\mu\nu} - \frac{1}{2}X_{\mu\nu}F^{\mu\nu} - \frac{1}{2}m^2X_{\mu}X^{\mu}$$

Current status



g-2





Connection with DM

