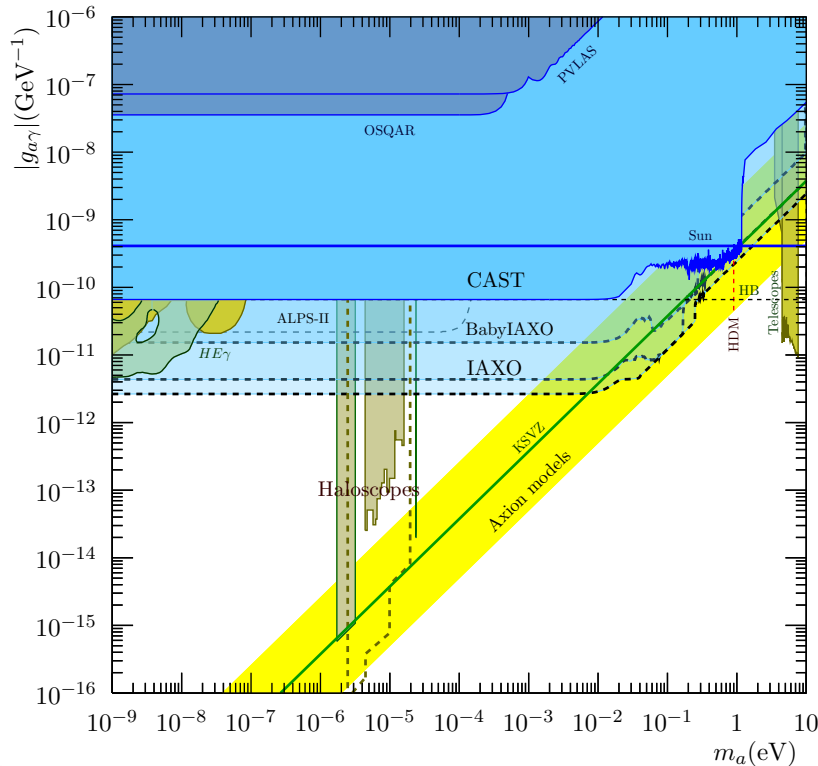
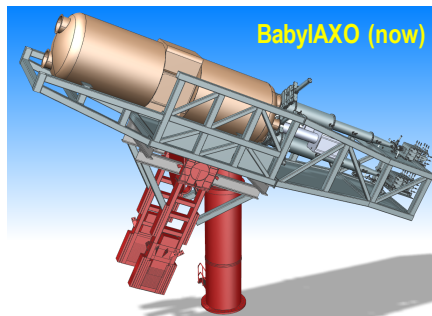
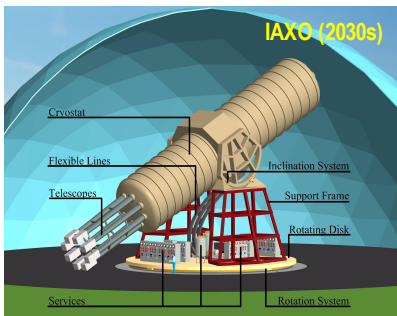


International Axion Observatory (IAXO) and BabyIAXO: Next Generation Helioscope Search for Axion and ALP Dark Matter



The International Observatory (IAXO) & BabyIAXO

- 4th generation axion helioscope
 - IAXO builds on innovations from the CERN Axion Solar Telescope (CAST) to improve S/N by 10^5 and sensitivity to coupling constant by 30×
 - BabyIAXO = intermediate stage for risk reduction and first physics results
 - Technologies have high maturity – no high-risk R&D required:
 - Toroidal magnet built on ATLAS design
 - Optics based on space technology
 - Micromegas detectors as baseline approach
 - Mostly model-independent approach, complementarily to haloscope searches
 - Primary science driver: solar axions and ALPS, but also sensitive to other models and more exotic particles
- [Armengaud et al., JCAP 1906, 047 (2019)]



IAXO LOI



IAXO Optics



IAXO Detectors



RADES