# References for AxionLimits webpage

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## 1 Axion-photon

### Haloscopes

- ABRACADABRA [1, 2]
- ADMX [3, 4, 5]
- ADMX-Sidecar [6]
- ADMX-SLIC [7]
- CAPP [8, 9, 10]
- BASE [11]
- HAYSTAC [12, 13]
- ORGAN [14]
- QUAX [15, 16]
- RADES [17]
- RBF [18]
- SHAFT [19]
- UF [20]
- UPLOAD-DOWNLOAD [21]
- ABRACADABRA (projection) [22]
- ADBC (projection) [23]
- ADMX (projection) [24]
- aLIGO (projection) [25]
- ALPHA (projection) [26]
- BRASS (projection) [27]
- DM-Radio (projection) [28]
- DANCE (projection) [29]
- LAMPOST (projection) [30]
- MADMAX (projection) [31]
- KLASH (projection) [32]
- ORGAN (projection) [14]
- TOORAD (projection) [33]

### LSW/Helioscopes

- ALPS [34]
- CAST [35, 36]
- CROWS [37]
- OSQAR [38]
- PVLAS [39]
- ALPS-II (projection) [40]
- IAXO (projection) [41]
- IAXO (Galactic SN) [42]

### Astro

- Bullet Cluster (archival radio data) [43]
- Chandra (Hydra) [44]
- Chandra (M87) [45]
- Chandra (NG7 1275) [46]
- Chandra (H1821+643) [47]
- Diffuse SN ALPs [48]
- Distance ladder [49]
- Fermi-LAT (NGC 1275) [50]
- Fermi-LAT (Extragalactic SNe) [51]
- HESS (PKS 2155-304) [52]
- Horizontal branch [53]
- Mrk 421 (ARGO-YBJ+Fermi): [54]
- Neutron Stars (Foster et al.) [55]
- Neutron Stars (Darling) [56]
- Neutron Stars (Battye et al.) [57]
- Solar neutrinos [58]
- SN1987A-$\gamma$ [59]
- SN1987A-$\gamma$ (low mass ALPs) [60]
- SN1987A-$\gamma$,$\nu$ (high mass ALPs) [61]
- Star clusters [62]
- Telescopes (MUSE) [63]
- Telescopes (VIMOS) [64]
- Fermi galactic SN (projection) [65]
- THESEUS (projection) [66]
- eROSITA (projection) [67]
- White dwarf initial-final mass relation [68]

### Cosmology

- Ionisation fraction, EBL, X-rays [69]
- BBN+$N_{\rm eff}$ [70]

## 2 Axion-electron

- EDELWEISS [71]
- Magnon non-demolition [72]
- LUX [73]
- Panda-X [74]
- SuperCDMS [75]
- XENON1T [76, 77]
- XENON1T (Solar basin) [78]
- Red giants ($\omega$Cen) [79]
- Solar neutrinos [80]
- Magnons (projection) [81]
- Polaritons (projection) [82]
- DARWIN (projection) [83]
- LZ (projection) [84]
- QUAX [85, 86]
- Semiconductors (projection) [87]
- White dwarf hint [88]

## 3 Axion-nucleon

Note: CASPEr and nEDM limits account for stochastic correction reported in [89]

- CASPEr-ZULF-Comagnetometer [90]
- CASPEr-ZULF-Sidechain [91]
- nEDM (ultracold neutrons and mercury) [92]
- NASDUCK [93]
- K-3He comagnetometer [94]
- Old comagnetometers [95]
- Torsion balance [96]
- Hot Neutron Star (HESS J1731-347) [97]
- SN1987A Cooling [98]
- SNO (deuterium dissasociation) [99]
- Proton storage ring (projection) [100]
- DM comagnetometer (projection) [95]
- CASPEr-wind (projection) [91]

## 4 Axion-EDM

- CASPEr-electric [101]
- nEDM [92]
- SN1987A [102]
- CASPEr-electric (projection) [103]
- Storage Ring EDM (projection) [103]

## 5 Axion mass versus $f_a$

- BBN [104]
- Binary pulsars and Solar core constraint on $\bar{\theta}$ [105]. I include minor numerical corrections made by [106, 107].
- GW170817 [108]
- nEDM [92]
- SN1987A [109]
- Neutron stars (projection) [105].
- NS-NS and NS-BH Inspirals (projection) [105].

## 6 CP-violating couplings

Combined constraints [110]

### Scalar-nucleon

- Red giants [111]
- MICROSCOPE [112].
- Eot-Wash [113, 114, 115]
- Irvine [116]. Corrected to $2\sigma$ limit by [117]
- HUST [118, 119, 120, 121].
- Stanford [122]
- IUPUI [123].
- Wuhan [117]

### Pseudoscalar-electron

- Red giants [111]
- Eot-wash [124]
- NIST [125]
- SMILE [126].
- QUAX [127, 128]
- Washington [129, 130].
- XENON1T [131]
- Magnon (projection) [82]
- QUAX (projection) [127].

### Pseudoscalar-nucleon

- Neutron star cooling [97]
- Washington [132]. Limit taken from [133].
- SMILE [126].
- Mainz [134]
- ARIADNE (projection) [135]
- CASPEr-wind (projection) [103]
- DM comagnetometer (projection) [95]

## 7 Black hole superradiance

- Baryakhtar et al. [136] (just Stellar mass BHs)
- Mehta et al. [136] (Stellar mass and SMBHs)
- Stott [137]
- Cardoso et al. [138] (dark photon)

## 8 Dark photons

Combined constraints [139]

### SM photon-DP transitions

- Coulomb [140, 141, 142, 143, 144],
- Plimpton & Lawton's experiment [145, 144]
- Atomic spectroscopy [146]
- Atomic force microscopy (AFM) [144]
- Static magnetic fields of the Earth [147]
- Static magnetic fields of the Jupiter [148].
- ALPs [34]
- SPring-8 [149]
- UWA-LSW [150, 151]
- ADMX-LSW [152]
- CROWS [37].
- TEXONO [153]
- Crab nebula [154]
- COBE and FIRAS [155]

### Production in stars

- CAST [156]
- SHIP [157]
- HB and RG stars [158]
- Neutron stars [159]
- Solar neutrinos [160]

### Dark matter cosmology/astro

- Arias et al. [161]
- Witte et al. [162, 163]
- Caputo et al. [164, 155],
- IGM [165],
- Leo T dwarf [166]
- Gas clouds [167]

### Dark matter experiments

- Reinterpreted axion limits [139]
- DAMIC [168]
- Dark E-field Radio [169]
- DM Pathfinder [170]
- FUNK [171]
- SENSEI [172]
- SHUKET [173]
- SuperCDMS [174]
- SuperMAG [175, 176]
- SQuAD [177],
- Tokyo dish antennae experiments [178, 179, 180]
- WISPDMX [181]
- XENON1T/XENON100 [87, 131, 182, 183].

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