Millimeter-wave WISP search with lock-in Light-Shining-Through-a-Wall

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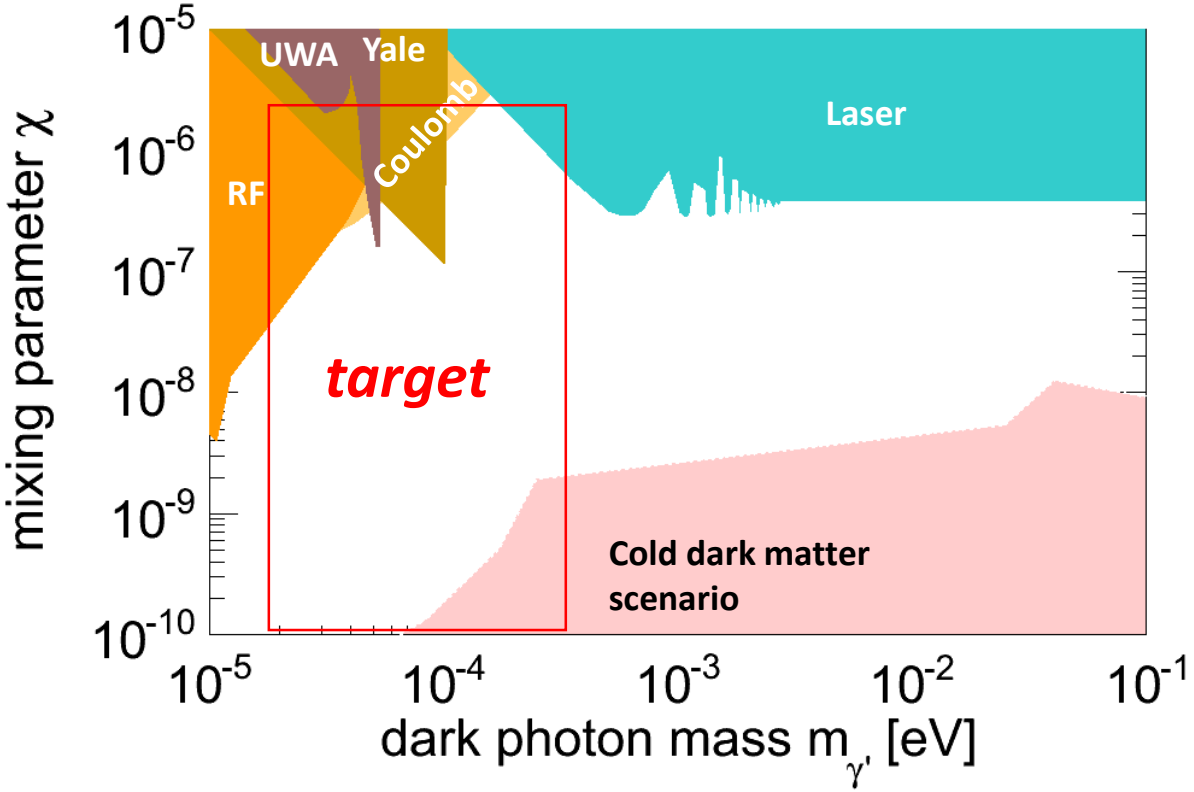
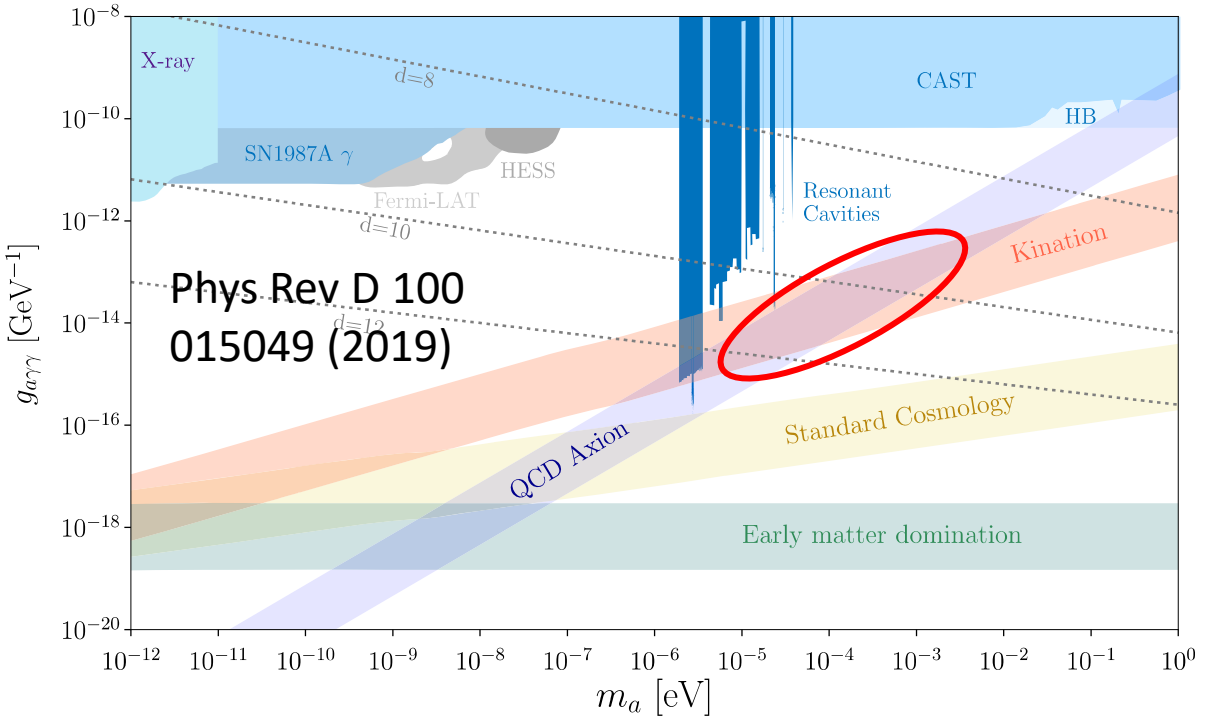
Millimeter waves → frontier in WISPs search

Dark photons (LSW-type limits)



The mass range between 10^{-5} and 10^{-3} eV is wide open!

Axions

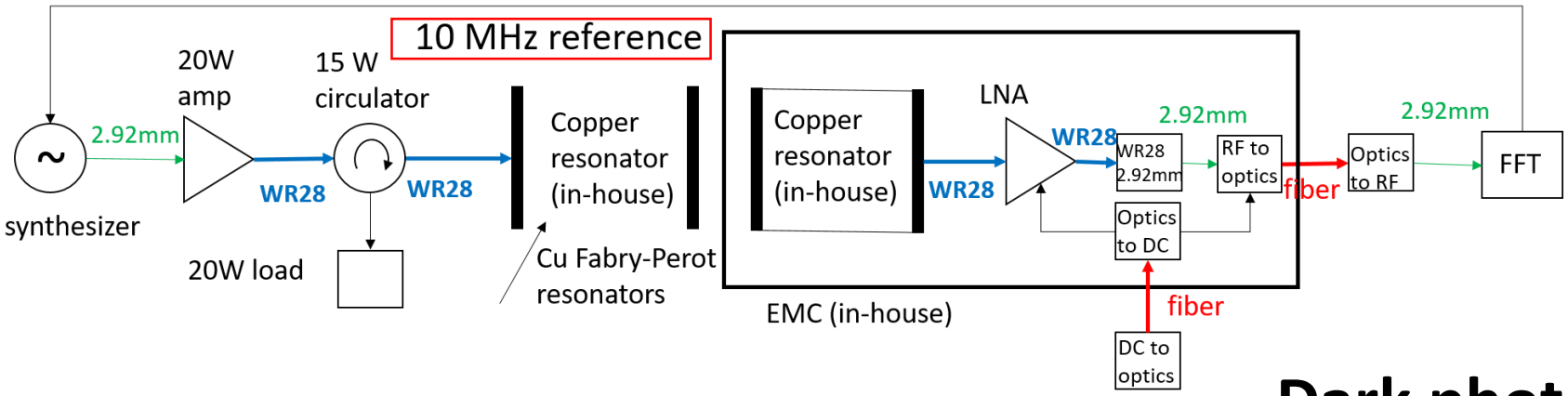


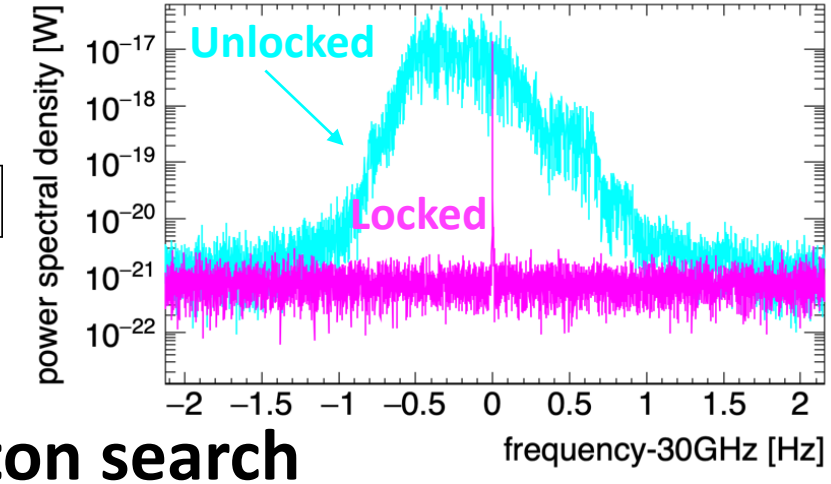
Post-inflationary scenario suggests the range between 10^{-5} and 10^{-3} eV → poor constraints

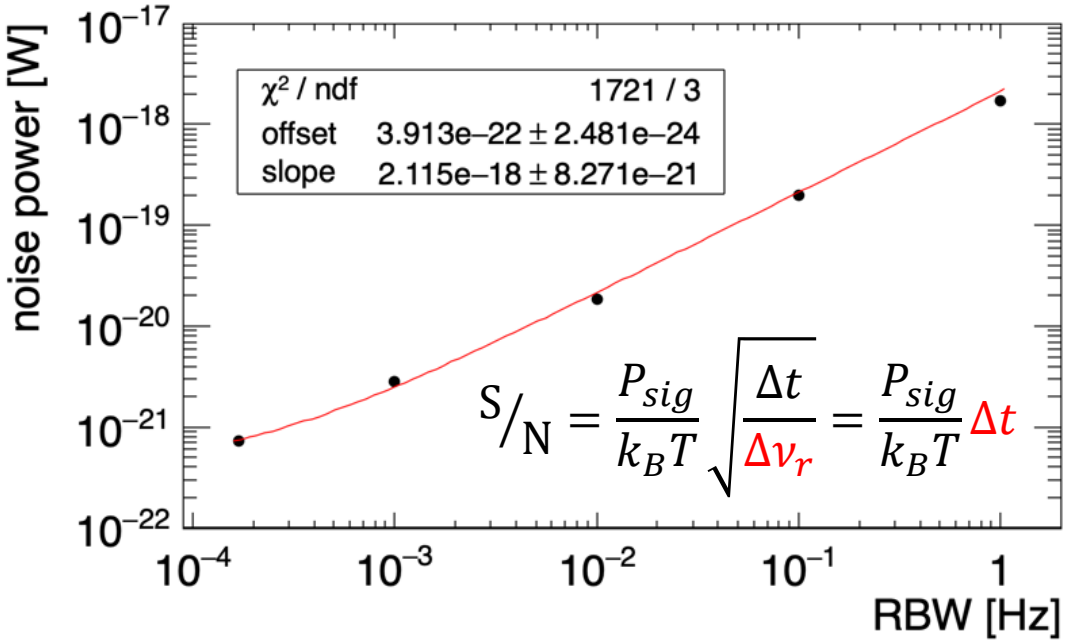
→ Corresponding photon frequency 10-100 GHz

Lock-in amplifier method in Light-Shining-Through-a-Wall

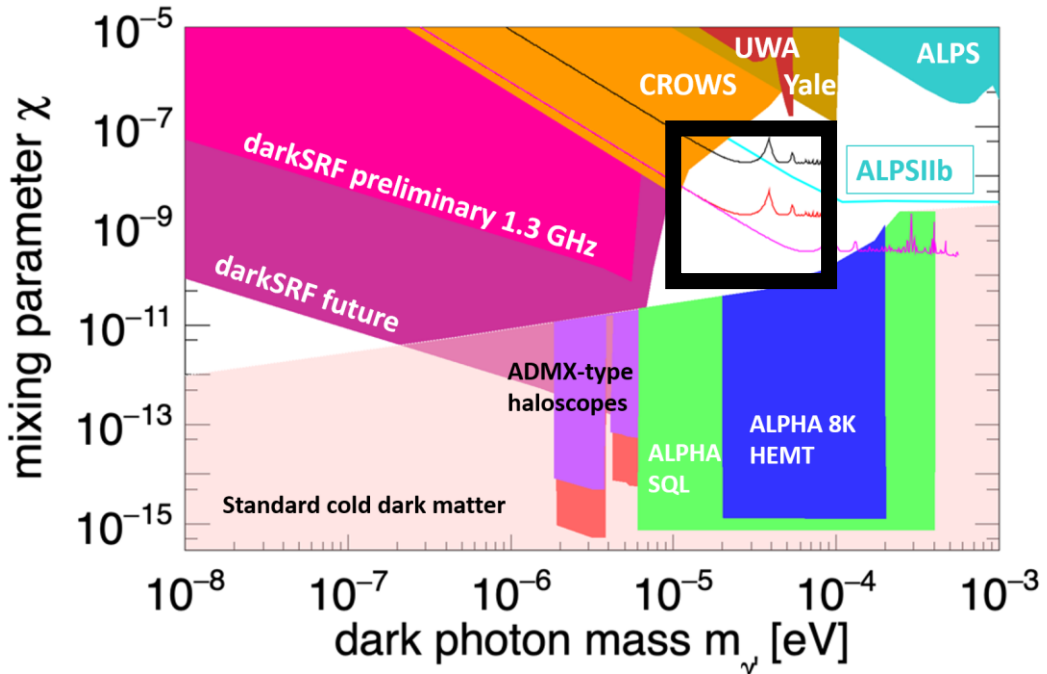
Lock-in!







Dark photon search



A. Miyazaki et alCERN-ACC-NOTE-2021-0032
F. Caspers, S. Federmann, and D. Seebacher, CERN-BE-Note-2009-026
F. Caspers, J. Jaeckel, and R. Ringwald, arXiv:0908.0759, published in JINST

Welcome to our poster for more discussions!