

One Predicted Line Against Every Published Search — the Kaxion at $8.1 \mu\text{eV}$, on the DFSZ Line

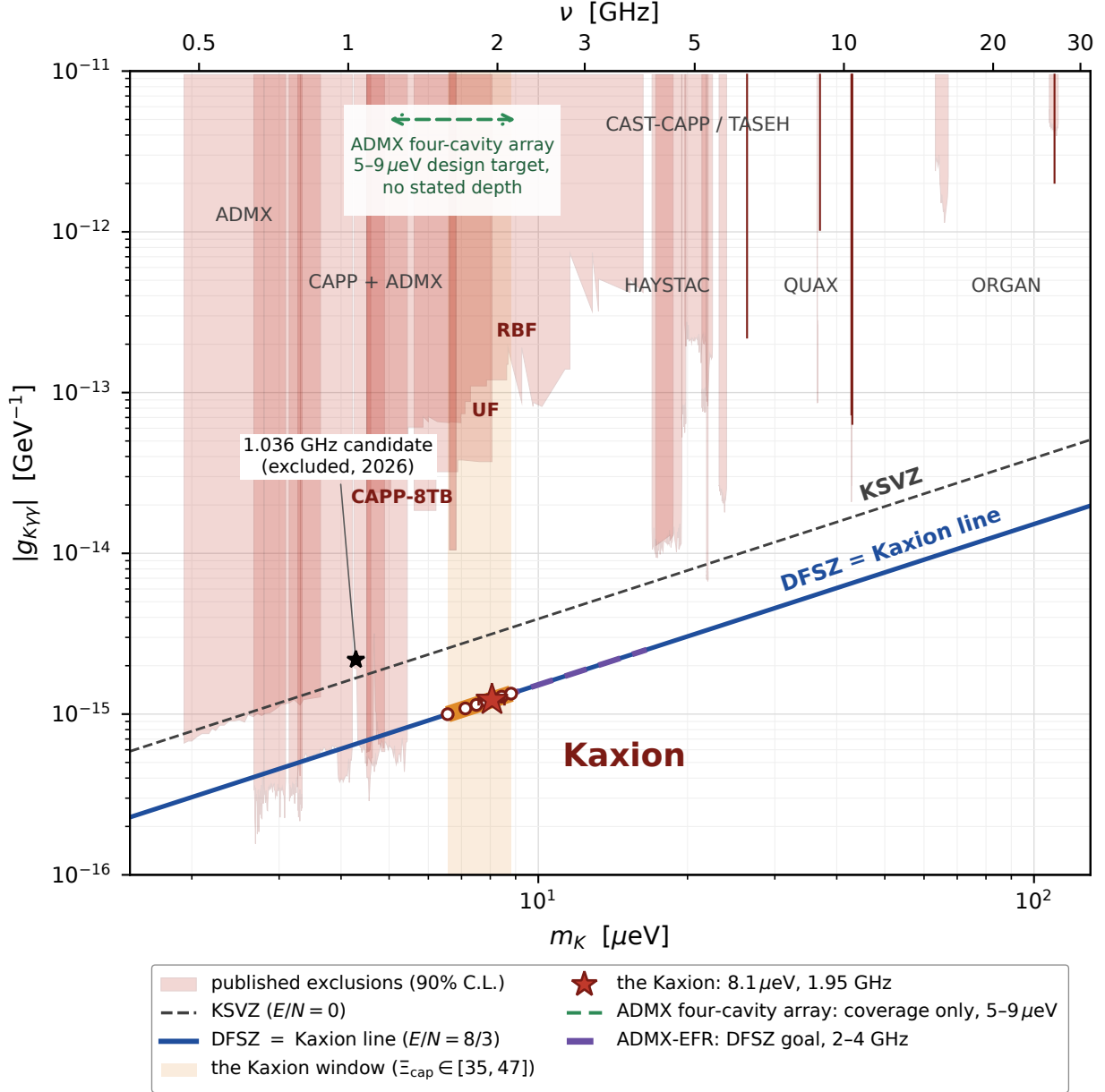


Figure 1: The Kaxion against the haloscope landscape: the published exclusion envelopes (red) of the ADMX, CAPP, RBF/UF, HAYSTAC, TASEH/CAST-CAPP, QUAX and ORGAN campaigns, digitized from the community AxionLimits compilation (O’Hare, 2020); the KSVZ and DFSZ model lines; and the one prediction — the Kaxion (red star) at $8.1 \mu\text{eV}$ on the DFSZ line ($E/N = 8/3$), inside the closed window of the seven loadings $\Xi_{\text{cap}} \in \{35, 38, 40, 42, 43, 45, 47\}$ (orange), every other frequency a mandated silence. The black star marks the 1.036 GHz candidate excluded in early 2026 — F-Kaxion-1d was faced and the prediction survived. Three published searches reach inside the window and are labeled; not one is within a factor of ten of the DFSZ line. Two announced programs are drawn dashed and only as far as each states: ADMX-EFR on the DFSZ line it targets across $2-4 \text{ GHz}$, and ADMX’s four-cavity array — a stated mass range and no stated sensitivity — as a coverage bracket above the plane. Full version and sources: Figure 8 in Part VII.