Decoherence mechanisms in a fluxonium qubit LONG NGUYEN, YEN-HSIANG LIN, NICHOLAS GRABON, JONATHAN SAN MIGUEL, VLADIMIR MANUCHARYAN, University of Maryland, SUPERCONDUCTING CIRCUITS TEAM — We report measurements of energy relaxation ($T_1$) and dephasing ($T_2$) of various transitions of a flux-tunable 3D fluxonium circuit. Relaxation measurements span an order of magnitude frequency variation of qubit transitions (1 - 10 GHz) and the observed lifetimes vary from microseconds to milliseconds. We utilize flux knob to enhance/reduce the sensitivity of the qubit to Purcell effect, dielectric loss, and quasiparticle tunneling. $T_2$ measurement is performed both at the spots maximally-sensitive to flux noise - where it never drops below a microsecond - and at the flux sweet spots.