Search for baryon number violation (BNV) in $\Lambda$ decays

- BNV reactions could explain cosmological matter-antimatter asymmetry
- Previous searches for BNV in nucleon, $\tau$, top, $D$ and $B$ meson decays performed at Super-K, Belle, CLEO, BaBar, LHCb, ...
- This is the first search for BNV involving decay of strange states
- Investigated nine $\Lambda \rightarrow m\ell$ channels and $\Lambda \rightarrow \bar{p}\pi^+$, signs of beyond-SM physics
- Exploited large $\Lambda K^+$ sample in g11 dataset ($1.8 \times 10^6$ events, < 0.3% background)
- No signal found; set upper limits on branching fractions ($B_{UL}$) in range $10^{-7}$ to $10^{-5}$