

Search for $J/\psi \rightarrow p\bar{p}e^+e^-$ Decays with the BESIII Experiment

- BESIII holds **world's largest J/ψ dataset** on resonance with 10 billion events

➔ Ideally suited for the search for rare decays!

- $J/\psi \rightarrow p\bar{p}e^+e^-$ decays are **interesting in both BSM and SM contexts**

- Search for the X17 Krasznahorkay, PRL 116 (2016), 1910.10459, 2209.10795

- Measure the time-like proton form factor in the unphysical region Lin, Guo, Meißner, arXiv:2309.07850v2

- Study the transition form factor of the X(1835) to evaluate its internal structure Jiang, 10.1016/j.nuclphysbps.2021.05.019

- **But: decay has not been measured yet!**

➔ First study of $J/\psi \rightarrow p\bar{p}e^+e^-$!

