Search for the rare decays $B \to K\nu\bar{\nu}$ at Belle II

Group Meeting - B2Knunu

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Belle II

State of the art

State of the art:

- Analyses carried for Hadronic Tagged Analysis (HTA) and Inclusive Tagged Analysis (ITA)
- Decay channel: $B^+ \to K^+ \nu \bar{\nu}$
- Results:

Main goal

- Carry the same analysis for the Semileptonic Tagged Analysis (STA)
- Compare the results between the three analyses for completion wrt the previous anaylises (BaBar and Belle)
- Will do for the decay channel $B^+ \to K^+ \nu\bar{\nu}$
- May also do it for $B^* \to K^* \nu\bar{\nu}$ (need to be done anyway by someone)

First approach

- Very similar to HTA since exclusive analysis
- Will use *semileptonic* FEI instead of hadronic
- Variable of interest for HTA: q^2

$\rightarrow$ Variable of interest for STA: q^2 and θ_{BY}