

# Investigation of decays reconstruction in HLT

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FIAS Frankfurt Institute  
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- Exotics:
  - $H^0 \rightarrow \Sigma^- p (\rightarrow n\pi^-)$
  - $H_c^{++} \rightarrow p \Xi_c^+ (\rightarrow \Lambda K^- \pi^+ \pi^+)$
  - $\Theta_{cs} \rightarrow \Lambda K^+ \pi^- \pi^-$
  - $\Theta_{cs} \rightarrow D^- \Lambda$
  - $T_{cc}^1 \rightarrow D^{*-} D^0$
  - $T_{cc}^1 \rightarrow D^0 D^0 \pi^-$
  - ...
- In addition, in order to investigate performance of the detector and reconstruction algorithms:
  - Maksym — **hypernuclei and  $\Xi^0(1530)$**  (as a result automatic reconstruction of  $\Xi^-$  and  $\Omega^-$ );
  - Pavel —  **$\Sigma^-$  and  $\Xi^-, \Omega^-$**  (missing mass method; will allow to increase the efficiency and investigate systematic errors);
  - Valentina —  **$J/\psi$**  (its quality strongly depends on the PV reconstruction and primary-secondary tracks separation);
  - Grigory — **D-mesons** (depend on the HFT track finding);
  - Mykhailo — **low mass vector mesons** (depend on track merging between detectors).