

**Anatomy of the decay  $B^0 \rightarrow K_S^0 \pi^+ \pi^-$   
and first observation of the  $CP$   
asymmetry in the transition  
 $\bar{B}^0 \rightarrow K^{*-} \pi^+$**



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## Yellow pages

- ⇒ Proponents: M. Baalouch, E. Ben-Haim, E. Cogneras, T. Gershon, M. Grabalosa, L. Henry, T. Latham, J.M. Maratas, J. McCarthy, D. Milanese, S. Monteil, R. Silva Coutinho, N. Watson
- ⇒ Reviewers: Stephanie Hansmann-Menzemer (chair), Stefano Gallorini
- ⇒ EB: Mitesh Patel
- ⇒ EB readers: Patrick Koppenburg, Simon Eidelman
- ⇒ Twiki: [https://twiki.cern.ch/twiki/bin/viewauth/LHCbPhysics/Dalitz\\_KSPiPi](https://twiki.cern.ch/twiki/bin/viewauth/LHCbPhysics/Dalitz_KSPiPi)
- ⇒ Jurnal: PRL.

- ⇒ Deadline for comments: 13<sup>th</sup> October.
- ⇒ Please send me comments before: 12<sup>th</sup> October.

# Physics in the paper

- ⇒ Looking for new source of CP violation outside the CKM matrix.
- ⇒ Looking at the transition  $b \rightarrow sq\bar{q}$ , where  $q = u, d, s$ .
- ⇒ Rule of thumb: CP violation should be similar to the ones in  $b \rightarrow sc\bar{c}$ .
- ⇒ The decay  $B^0 \rightarrow K_S^0 \pi^+ \pi^-$  has reach resonant structure!!
- ⇒ Dalitz analysis.

