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## Observation of the post-tagging effect for entangled K mesons at KLOE

*Monday 21 August 2023 09:18 (18 minutes)*

Novel quantum phenomena have been recently discussed [1] in association to a peculiar time correlation between entangled neutral kaons produced at a  $\phi$ -factory: the past state of the first decayed kaon, when it was still entangled before its decay, is post-tagged by the result and the time of the future observation on the other kaon decay. This surprising “from future to past” effect is fully observable. Preliminary results obtained on the analysis of data collected by the KLOE experiment at the DAΦNE collider are presented, showing experimental evidence of this new effect.

[1] J. Bernabeu, A. Di Domenico, Phys. Rev. D 105 (11) (2022) 116004.

### **Collaboration / Activity**

KLOE-2

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