Contribution ID: **326** Type: **Oral presentation using Zoom**

Physics reach of a long-lived particle detector at Belle II

Thursday, 28 October 2021 16:00 (30 minutes)

This talk summarizes a study of realistic design options for a far detector at the Belle II experiment, dubbed GAZELLE. We have quantified the sensitivity of such a detector to long-lived particles produced in e+e- collisions for three benchmark scenarios: axion-like particles, heavy neutral leptons, and a dark matter scenario with a light scalar. GAZELLE will moderately improve the sensitivity to the couplings of these long-lived particles, compared to the excellent sensitivity of the Belle II detector itself. Our general findings can help to design far detectors at the ILC, FCC-ee or CEPC.

1st preferred time slot for your oral presentation

15:30-17:30 JST (8:30-10:30 CEST, 2:30-4:30 EDT, 23:30-1:30 PDT)

2nd preferred time slot for your oral presentation

19:00-21:00 JST (12:00-14:00 CEST, 6:00-8:00 EDT, 3:00-5:00 PDT)

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Session Classification: H&O: BSM particle production & Fixed target / Dark sectors / Applications outside particle physics

Track Classification: Parallel sessions: Transversal Task Forces: Session O: Fixed target / Dark sectors / Applications outside particle physics