## 29th International Symposium on Lepton Photon Interactions at High Energies



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## Semileptonic and leptonic B decay results from early Belle II data

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## **Summary**

The Belle II experiment at the SuperKEKB energy-asymmetric  $e^+e^-$  collider is a substantial upgrade of the B factory facility at the Japanese KEK laboratory. The design luminosity of the machine is  $8\times 10^{35}$  cm $^-2$ s $^{-1}$  and the Belle II experiment aims to record 50 ab $^{-1}$  of data, a factor of 50 more than its predecessor. From February to July 2018, the machine has completed a commissioning run, achieved a peak luminosity of  $5.5\times 10^{33}$  cm $^-2$ s $^{-1}$ , and Belle II has recorded a data sample of about 0.5 fb $^{-1}$ . Main operation of SuperKEKB has started in March 2019. In this presentation we show first results from studying missing energy signatures, such as leptonic and semileptonic B meson decays based on early Belle II data. We report first studies on remeasuring important standard candle processes, such as the abundant inclusive  $B\to X\ell\nu$  and  $B\to D^*\ell\nu$  decays. Furthermore, we will also present an overview of the semileptonic B decays that will be measured in the upcoming years at Belle II and discuss prospects for important B-anomalies like R(D) and R(D\*), as well as other tests of lepton flavor universality.

Presenter: FODOR, Andrea (McGill University)Session Classification: Poster Session (Thu/Fri)

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