

# 31st International Symposium on Lepton Photon Interactions at High Energies



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## Recent Belle II results on semileptonic B decays and tests of lepton-flavor universality

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Semileptonic  $B$ -meson decays allow for determining the magnitudes of the CKM matrix parameters  $|V_{cb}|$  and  $|V_{ub}|$ , two fundamental parameters of the SM flavor sector and to probe the excess rate of semitauonic  $B$  decays, which has been consistently above expectations in recent years. Belle II analyses use both exclusive decays such as  $B \rightarrow D^* \ell \nu$  and  $B \rightarrow \pi \ell \nu$ , or inclusive  $X_c \ell \nu$  or  $X_u \ell \nu$  final states restricted in phase space. The low-background collision environment, along with the possibility of partially or fully reconstructing one of the two  $B$  mesons in the event, offer precisions on  $|V_{cb}|$  and  $|V_{ub}|$  approaching that of world-best results and provides unique probes of lepton-flavor universality violation.

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