**Istituto Nazionale di Fisica Nucleare Laboratori Nazionali di Frascati**

Avviso di Seminario Teorico

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**An extended overview on $B \to D^{(\*)} \ell \nu$ decays within the Standard Model**

For a long time the $|V\_{cb}|$ puzzle and the $R(D^{(\*)})$ anomalies have been considered possible, indirect probes of physics beyond the Standard Model (SM). I will discuss the state of the art of the phenomenological studies of $B \to D^{(\*)} \ell \nu$ decays, focusing on both lattice and experimental available datasets. I will show how the use of hadronic form factors (FFs) constrained by lattice calculations only can lighten the aforementioned tensions, independently of the existing differences among the results of the different collaborations. This conclusion holds independently of the particular parametrization adopted for the FFs.  Furthermore, I will discuss in detail the “slope issue”, namely the tensions among the slopes in the momentum transfer of the different FFs computed on the lattice or measured by the experiments. I will present a novel and simple strategy for a direct comparison among them. Interestingly, this kind of study reveals that experimental data themselves show important differences among each other, while a better agreement is observed between some of the experimental results and the theoretical predictions. Future prospects for analyses both within and beyond the SM will be finally highlighted.

## Martedi’ 29/10 ore 14:30 Stanza Aula Salvini

https://agenda.infn.it/event/43665/