

Institut Ruđer Bošković  
ZAVOD ZA TEORIJSKU FIZIKU  
Bijenička c. 54  
ZAGREB, HRVATSKA

---

SEMINAR ZAVODA ZA TEORIJSKU FIZIKU

RBI-T-WINNING seminari



## Lepton Flavor Universality Violation: Window to physics beyond the Standard Model

**Damir Bečirević**

LPT Orsay  
Paris, France

Datum: utorak, 12. lipnja 2018.

Vrijeme : **13 sati c.t.**

Mjesto: IRB, Dvorana 3. krila

### Abstract:

Recently observed discrepancies between the Standard model theory and the experimental measurements of semileptonic  $B$ -meson decays indicate the violation of one of the basic premisses of the Standard Model: lepton flavor universality. Such deviations are observed in both the decays mediated by charged currents and those by flavor changing neutral ones. I will explain the origin of the discrepancies and based on the effective field theory approach, I will identify the sources of physics beyond the Standard Model. I will then review the scenarios beyond the Standard Model capable of accommodating the above-mentioned deviations and propose a viable scenario which entails only two  $\mathcal{O}(1 \text{ TeV})$  scalar leptoquarks beyond the Standard Model. Curiously that scenario allows for a  $SU(5)$  unification.

Voditelj seminara:  
Anđelo Samsarov