

Institut Ruđer Bošković  
ZAVOD ZA TEORIJSKU FIZIKU  
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SEMINAR ZAVODA ZA TEORIJSKU FIZIKU  
(Zajednički seminari Zavoda za teorijsku fiziku,  
Zavoda za eksperimentalnu fiziku i Zavoda za teorijsku fiziku PMF-a)

## Progress on gauge theory on noncommutative Moyal space

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### Abstract:

Particle physics model building on noncommutative Moyal space has started for many years. Among the resulting models, the noncommutative gauge theory based on Seiberg-Witten map was considered promising. However, such models were limited for a long time by the approximative expansion over the noncommutative parameter  $\theta$  in expressing the map. Also, there were questions concerning the method's compatibility with the seesaw mechanism for neutrino mass. In this talk we present our recent progress on overcoming both issues and discuss a few applications. Some potential open problems will also be addressed.

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