

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

SERIJA PREDAVANJA U SKLOPU SEMINARA ZAVODA ZA TEORIJSKU
FIZIKU

Theory of entanglement

Ugo Marzolino
IRB, Zavod za teorijsku fiziku

Datum: srijeda, 4. travnja 2018.

Vrijeme : **14 sati c.t.**

Mjesto: IRB, predavaona I krila

Abstract:

I will introduce the notion of entanglement starting from the basic ingredients of quantum mechanics. I will discuss its interpretation as a genuine quantum correlation, and elaborate on its properties. In particular I will cover some fundamental results on entanglement manipulation, measurement, and usability for information-theoretic processing.

Afterwards, I will discuss how the notion of indistinguishability of identical constituents interferes with the above picture. I will expose the difficulties towards a meaningful definition of entanglement for identical particles. It will turn out that an algebraic formalism, based on observables and operators rather than states, will be more appropriate to account for both identical and distinguishable particles.

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