

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

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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)

**Dark matter, Tunguska,  $(6t + 6\bar{t})$ -bound states**

**Prof. Holger B. Nielsen**

The Niels Bohr Institute, Copenhagen, Denmark

*Datum: ponedjeljak, 05. rujna 2009.*

*Vrijeme : 12:00 sati c.t.*

*Mjesto: IRB, seminar Zavoda za teorijsku fiziku*

**Sažetak:**

We propose a model for dark matter in which the dark matter consists of orange-sized balls of highly compressed ordinary matter. It is much like a small white dwarf stars compressed by a skin separating two phases of the vacuum. These balls have each a mass around  $10^{11}$  kg. The one of the two possible phases of vacuum realised inside the balls is characterised by a bose condensate of a certain bound states (t-balls) each consisting of six top quarks and six anti top quarks. The whole model of ours is inside the Standard model, except that we propose a fine-tuning principle called "multiple point principle" assuming that there are several (almost) degenerate vacua. This principle is also helpful with respect to the hierarchy problem.

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