

Physikalisches Kolloquium

Prof. Dr. Mikko Laine

Universität Bern

On the quantum statistical physics of dark matter freeze-out

Astronomical observations demand the existence of dark matter, however no suitable candidates have been observed at the Large Hadron Collider or elsewhere so far. This poses a challenge both for model building and for the theoretical tools with which a given model is addressed. After a gentle introduction, issues related to the latter challenge are reviewed. Finally, as a concrete example, we illustrate the recently fashionable idea that bound states could appear in the dark sector and significantly affect the freeze-out dynamics. As it happens, this physics may have interesting analogues with the much-studied fate of quarkonia states in Heavy Ion Collision experiments.

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Ort: Hörsaal 6