

# PHYSIKALISCHES KOLLOQUIUM

AM 27. JANUAR 2020 UM 17 UHR C.T.

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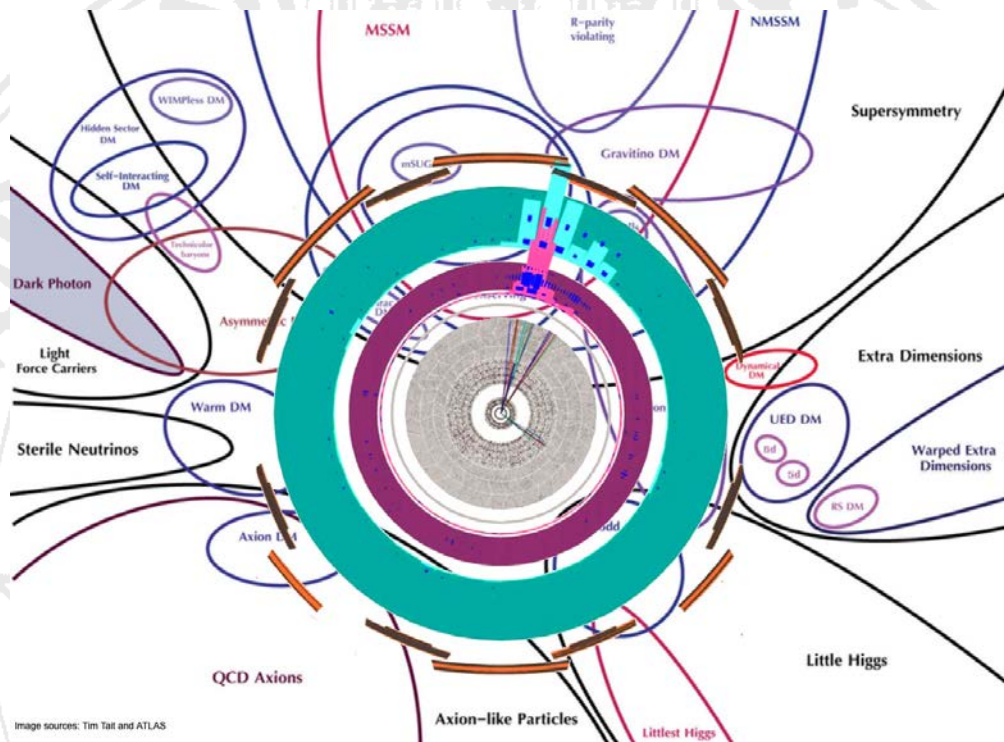


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## SHINING LIGHT ON DARK MATTER

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While the presence of dark matter in our universe is well established by experiment, there is no knowledge about its particle nature. Without viable candidates in the Standard Model of particle physics, its existence alone implies that our inventory of the fundamental building blocks of nature is incomplete. This has sparked a diverse ensemble of groundbreaking experiments and searches, unified by the goal to shine light on the identity of dark matter.

This lecture will start with basic concepts, ideas as well as evidence of dark matter, before summarising contemporary search approaches. The prospects and complementarity of these approaches will be discussed, including recent results. A few examples will be explored in more detail, from the perspective of particle physics at colliders and in the context of generic models of dark matter as well as larger model frameworks such as supersymmetry.