

# PRISMA+ Colloquium

Nov. 6, 2019 at 1 p.m.  
Lorentz-Raum 05-127, Staudingerweg 7

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## **The strange charm of hyperons**

Many challenges in modern physics manifest themselves in the proton. Despite being known for a century, it is to this day difficult to describe properties like its mass, spin, structure, size and abundance from first principles. One strategy when you have a system you don't fully understand, is to make a small change to the system and see how it reacts. In the case of the proton, we can replace one of the light quarks with a heavier one and thereby obtain a hyperon. Hyperons have the advantage over protons and neutrons that their spin is traceable through their weak, parity violating and thereby self-analysing decay. In this talk, I will outline how various aspects of hyperons can shed light on two of the puzzles related to the proton: the structure and the abundance. In particular, I will discuss how two recent measurement by the BESIII collaboration exploit the unique properties of hyperons and pave the way for a new generation of hyperon physics experiments.