



Sonderseminar

Donnerstag, 16. Mai 2019

13:15 Uhr

WSI, Seminarraum S 101

“Brief survey of geometric algebra and its application to physics and engineering”

Many of the mathematical forms used in physics, engineering, robotics, and computer vision such as complex numbers, matrices, vector calculus, quaternions, spinors etc. are actually part of a unified mathematics known as geometric algebra. While it was discovered in 1873 by William Clifford, only recently has geometric algebra been used in main stream science and technology. Geometric algebra provides a concise description of nature including relativity, quantum mechanics, electromagnetism, and classical mechanics in a coordinate free geometrical language and provides new insight into many of these fields.

In this talk, I will attempt to introduce the ideas of geometric algebra, how it generalizes and unifies the usual mathematics, and discuss its application to various aspects of physics and engineering. I hope to convey a hint of some of the new insights which arise from using geometric algebra descriptions.

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