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Date 16th December 2014, 12:00 in Old Auditorium, Telescopium

Title: "An overview of wavefront reconstruction algorithms for future AO systems and their implications on RTCs"

Abstract: In this talk, I will present the different families of reconstruction algorithms that could be used for future AO systems, especially tomographic. These families include the classic Matrix-Vector Multiply, the Austrian in-kind algorithms like Cure and iterative algorithms (Frim, Wavelets, TMT algorithm). Once those have been presented and compared (including their respective performance in terms of achievable Strehl and noise propagation), I will show what impact the different classes of algorithms can have on Real-Time Computers design and architecture.

In order to appeal to a broader audience, I will not get into the mathematical details of each algorithm, but rather try to group them in families and summarize their underlining ideas and compare them at the conceptual level.