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BULLS, BEARS, QUANTS AND ROCKET SCIENTISTS: PHYSICS AND STOCK MARKETS

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At first sight, it seems a bit far-fetched that physicists do research on financial markets. But actually this has a long history, and nowadays several strong reasons spur this research considerably. First, financial markets are complex systems par excellence, prompting the development of new approaches beyond, for example, equilibrium modeling. Second, a wealth of data is available now, facilitating data-driven research just like in traditional physics. Third, the financial industry offers many attractive job opportunities for physicists.

In the talk, I will quantitatively answer the questions: Do financial markets have a memory? If yes, on which time scales? Can the markets operate in different states or modes? If yes, how can we identify and measure them? Can we separate exogenous (external) and endogenous (internal) effects acting on/in the markets?