WIENER PHYSIKALISCHES KOLLOQUIUM

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Einladung zum Vortrag von

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Network Science: From structure to control

Systems as diverse as the world wide web, Internet or the cell are described by highly interconnected networks with amazingly complex topology. Recent studies indicate that these networks are the result of self-organizing processes governed by simple but generic laws, resulting in architectural features that makes them much more similar to each other than one would have expected by chance. I will discuss the order characterizing our interconnected world and its implications to network robustness, and control. Indeed, while control theory offers mathematical tools to steer engineered and natural systems towards a desired state, we lack a framework to control complex self-organized systems. I will discuss a recently developed analytical framework to study the controllability of an arbitrary complex directed network, identifying the set of driver nodes whose time-dependent control can guide the system's dynamics.

13. April 2015, 17:30 hrs

TU Wien-Freihaus, Hörsaal 5, 2. Stock, grüner Bereich

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