

Symposium Chimera States: Coherence-Incoherence Patterns in Complex Networks (SYCS)

jointly organized by
 Dynamics and Statistical Physics Division (DY),
 Physics of Socio-Economic Systems Division (SOE), and
 Biological Physics Division (BP)

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Coupled systems, like nonlinear oscillator networks, are known to show a variety of self-organized pattern formation. Chimera states have recently been found as a new phenomenon; they are long-time transient hybrids comprised of subsystems showing spatially coherent (synchronized) and incoherent (desynchronized) oscillations in their respective parts. Chimera patterns occur in networks of identical oscillators even for highly symmetric coupling, manifesting a distinct form of symmetry breaking. This symposium reviews the foundations and theoretical progress of chimera phenomena, and provides an introduction into current experimental and theoretical work in application areas as diverse as quantum systems, chemical oscillators, and brain dynamics.

Overview of Invited Talks and Sessions

(Lecture room H1)

Invited Talks

SYCS 1.1	Tue	9:30–10:00	H1	Theory far from infinity: chimera states without the thermodynamic limit — ●DANIEL ABRAMS
SYCS 1.2	Tue	10:00–10:30	H1	Chimera patterns: Influence of topology, noise, and delay — ●ECKEHARD SCHÖLL
SYCS 1.3	Tue	10:30–11:00	H1	Chimera states in quantum mechanics — ●VICTOR MANUEL BASTIDAS VALEN西亚
SYCS 1.4	Tue	11:15–11:45	H1	Synchronization in Populations of Chemical Oscillators: Phase Clusters and Chimeras — ●KENNETH SHOWALTER
SYCS 1.5	Tue	11:45–12:15	H1	Epileptic seizures: chimeras in brain dynamics — ●KLAUS LEHNERTZ