

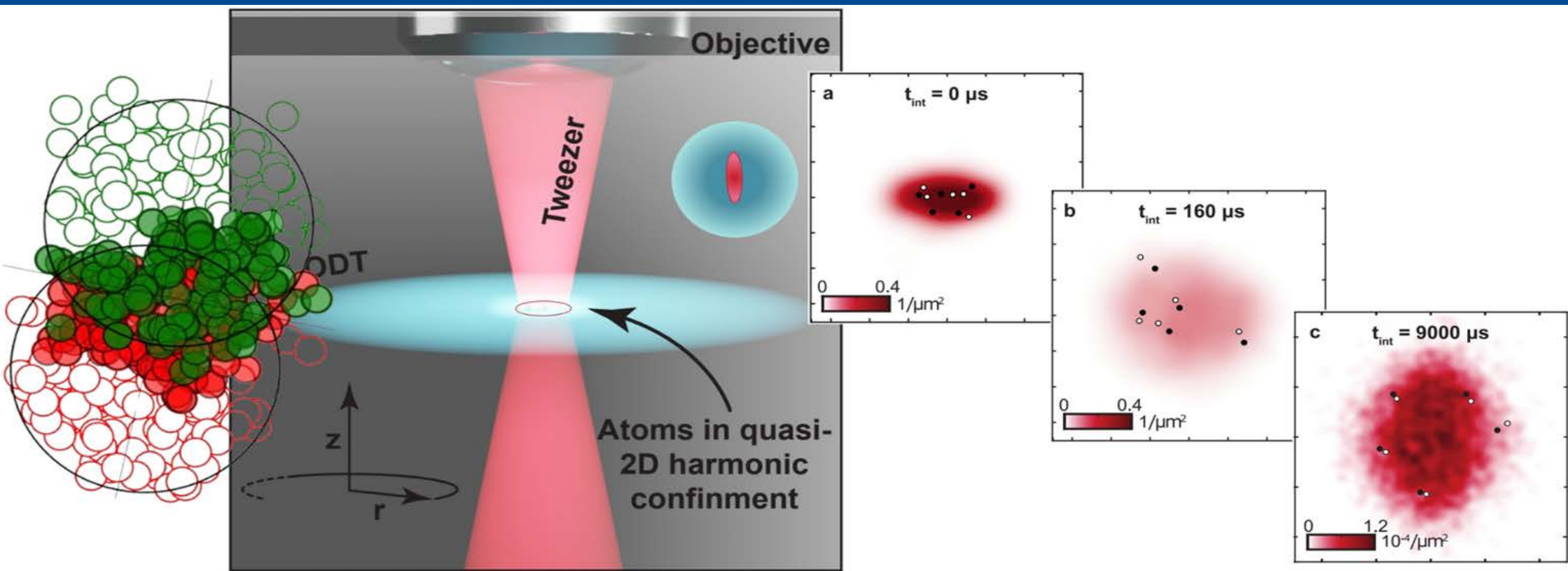
ExtreMe Matter Institute EMMI

EMMI Rapid Reaction Task Force

Deciphering Many-Body Dynamics in Mesoscopic Quantum Gases

March 18-21, 2024

Heidelberg University, Germany



Emergent macroscopic descriptions of matter, such as hydrodynamics, are central to our understanding of complex physical systems across a wide spectrum of energy scales. The conventional understanding of these many-body phenomena has been recently shaken by a number of experimental findings. Collective behavior of matter has been observed in "mesoscopic" systems, such as high-energy hadron-hadron collisions, or ultra-cold gases with only few strongly-interacting fermions, where a separation of scales between macroscopic and microscopic dynamics (at the heart of any effective theory) is inapplicable. To address the conceptual challenges that arise from these observations and explore the universality of emergent descriptions of matter, the RRTF will conduct in-depth discussions on the latest theoretical and experimental results on these issues, and identify cross-disciplinary research paths for future investigations.

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Information:

www.gsi.de/emmi/rrtf

Website:

<https://indico.gsi.de/event/19234/>

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