

Contribution Title:	QUANTUM QUENCHES: CURRENT SURVIVAL AND OTHER PROBLEMS
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Invited speaker:	Topical session
YRS seminar:	NO

A quantum quench is a rapid change of a quantum system from one phase to another at zero temperature. Such quenches have been the subject of growing interest in recent years due to possible realization in cold atom systems. In the talk I will describe some of the questions raised in this subject. I will study in detail the survival of super-currents in a system of impenetrable bosons subject to a quantum quench from critical superfluid phase to an insulating phase. I will describe the evolution of the current and its oscillations when the quench follows a Rosen-Zener profile, which is exactly solvable. (Collaboration with G. Refael and C. Lannert)