Dynamics in strongly correlated ultracold gases

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Atomic gases cooled to Nanokelvin temperatures are a new exciting tool to study a broad range of quantum phenomena. In particular, the outstanding degree of control which has been achieved over these quantum systems facilitates access to the dynamics of strongly correlated quantum many body systems.
Recently a single trapped ion has been immersed into these quantum gases. This combines two systems of very different nature in a single setup.
In my talk I would like to report on these new hybrid systems. In particular I will discuss the effect of a hot ion which induces locally atom losses and the resulting dynamics.