

COLLOQUIUM

Department of Physics

Boltzmann's Beating

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Abstract

Atomic physicists are forever excited about studying both ultracold matter and the techniques to produce it. I will attempt to explain the reason for this excitement. We will see that this march towards absolute zero is spurred on by the desire to control the Boltzmann factor and gain full quantum control over matter.

Following this indoctrination, I will focus on our own work production ultracold matter in a new forms, as well as some interesting detours in quantum chemistry and non-equilibrium physics that we have taken along the way.

I will conclude by doubling back and asking: are there other ways to beat Boltzmann? Excitingly, a certain isotope of thorium may hold the key and we are zeroing in on it.

Monday, December 4, 2017, 3:00 pm

SERC, Room 116

Coffee will be served at 2:45 pm