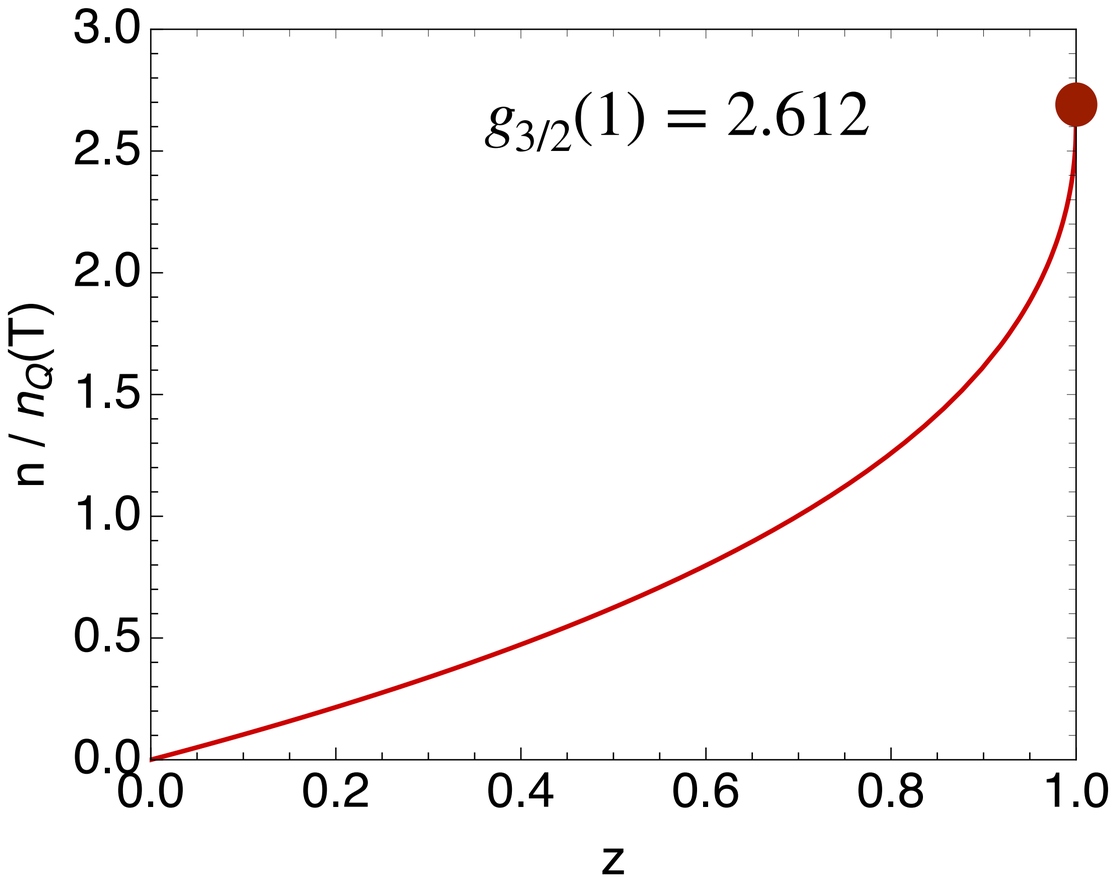
The condensation point



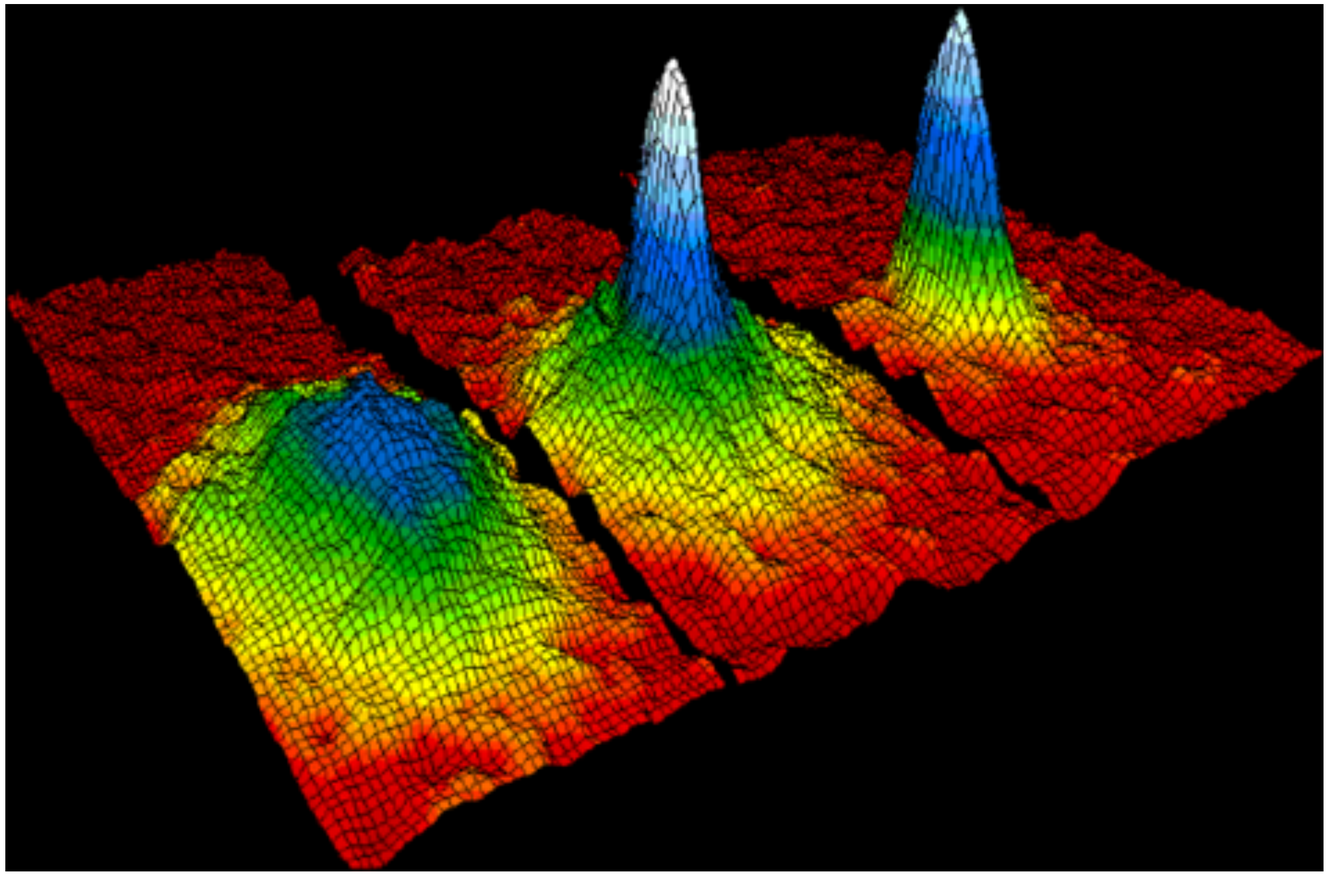
For any given temperature T, there is a critical density, $n_c = 2.612\, n_Q(T)$.

Or vice versa there is a critical temperature for any given density. Solving

$$kT_c = \frac{h^2}{2\pi m}\left(\frac{n}{2.612}\right)^{2/3}$$

When $z \to 1$

Bose Condensation in Atomic Gasses: Cornell, Weiman, Ketterle ‘95



What is seen is that
above a certain temperature
one has a ensemble of atoms
with a range of momenta.

Below specific temperature
a significant fraction of the atoms
are in a single quantum state, the
ground state — (the blue spike).