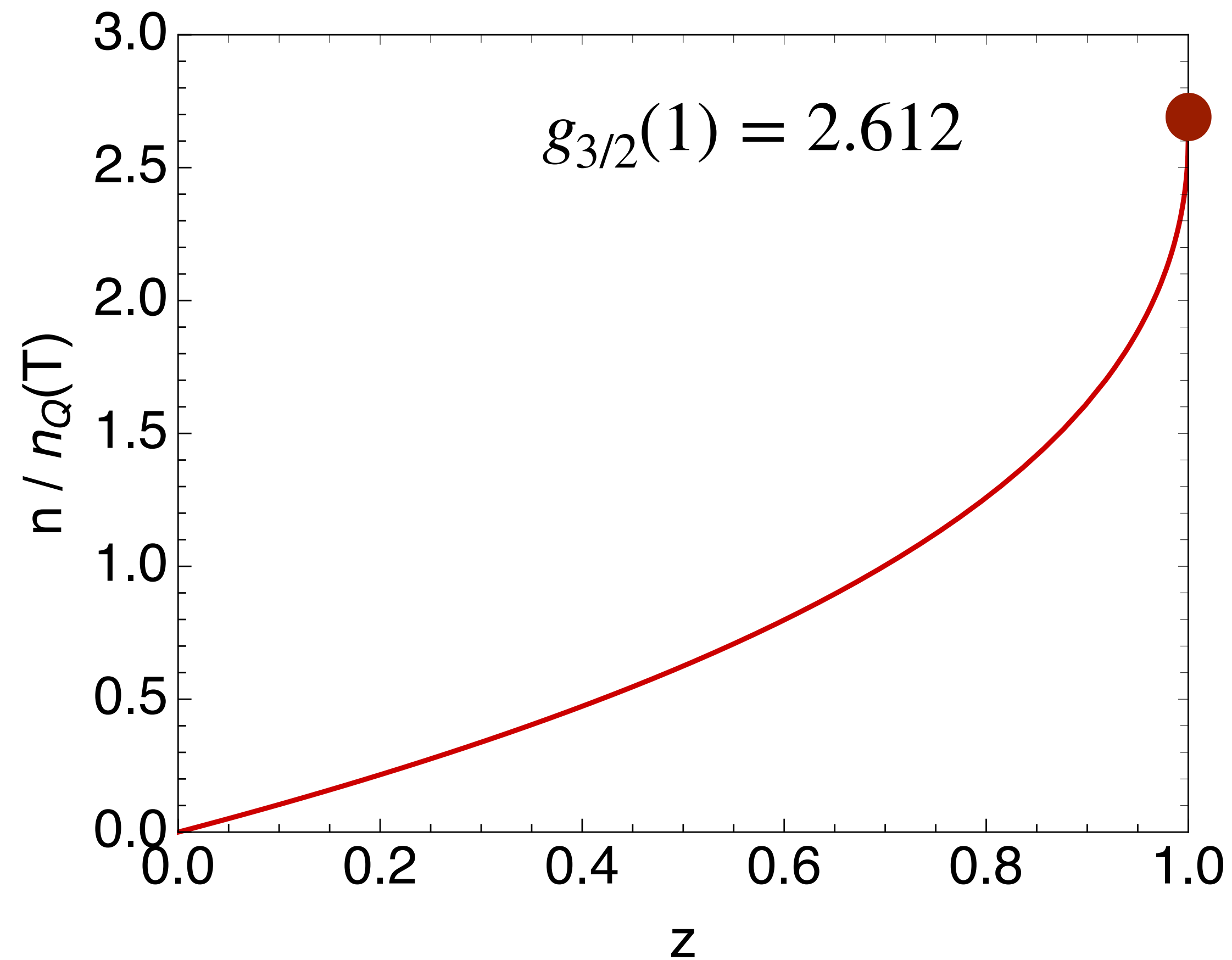


The condensation point



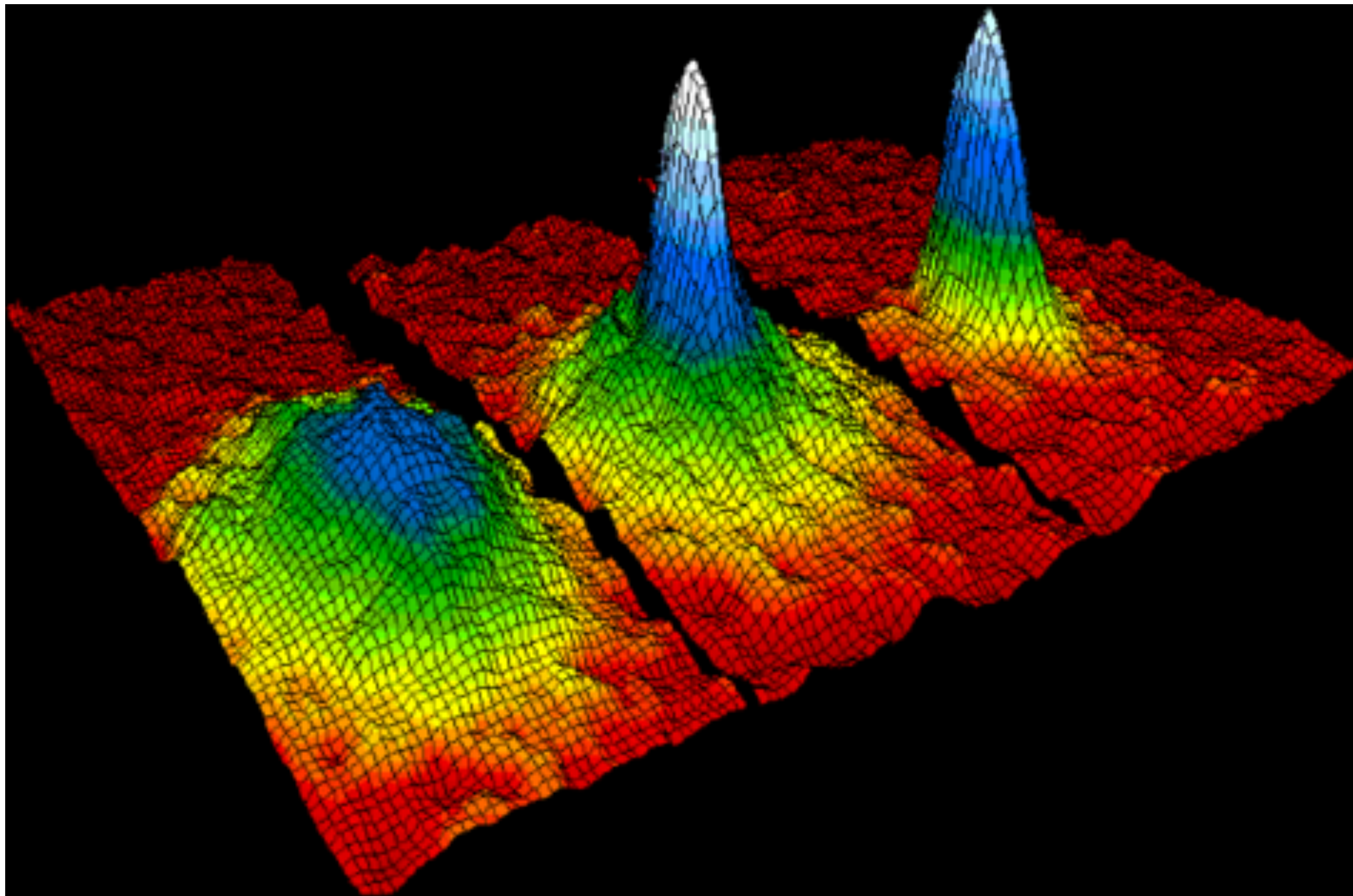
For any given temperature T , there is a critical density, $n_c = 2.612 n_Q(T)$.

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 $z \rightarrow 1$

Bose Condensation in Atomic Gases: Cornell, Weiman, Ketterle '95



What is seen is that above a certain temperature one has an 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).