

## Lecture 22

### Physics 404

We discussed some of the properties of liquid  $^4\text{He}$ , including the superfluid state. Helium-4 is a liquid at low temperatures and pressures below about 60 atmospheres. Below 2.2 K it goes into a superfluid state brought on by a Bose-Einstein-like condensation crisis. The two-fluid model treats the He atoms in the ground state as a superfluid, while the atoms in excited states are part of the normal fluid. Many of the remarkable properties of superfluid  $^4\text{He}$  can be explained by the two-fluid model.