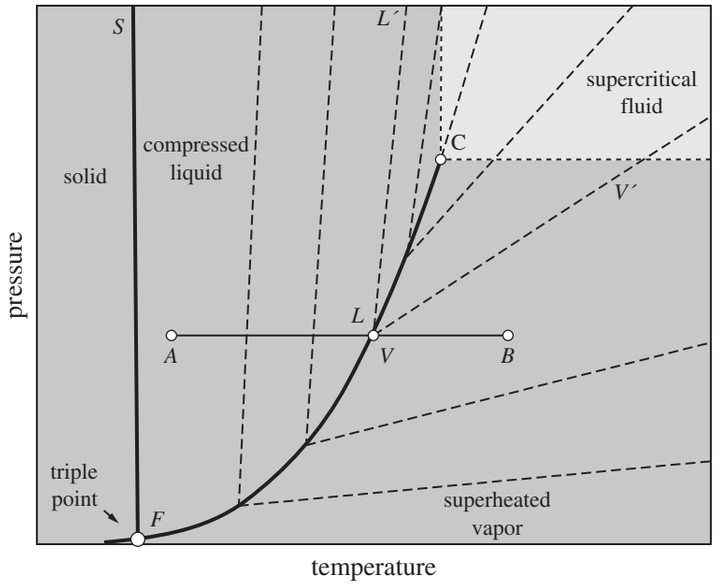

Figure 2-4: Pressure-temperature graph of pure fluid showing the solid, liquid, vapor and supercritical regions. Dotted lines are lines of constant molar volume.

and the liquid (to the left and above). The dotted lines are lines of constant molar volume, also known as isochores. Molar volume increases from left to right, that is, moving on a line of constant pressure from lower temperature to high we encounter increasingly higher molar volumes. Line AB represents a constant-pressure process and corresponds to the same states as in Figure 2-2. Points L and V coincide on this graph (all tie lines are viewed from their edge in this projection). Line LL' is a line at constant volume $V = V_L$, equal to the volume of saturated liquid~~).~~ Line VV' is a line at constant volume $V = V_V$, (saturated vapor). Although the two lines meet on the saturation line, they correspond to different values of the molar volume, as we recall from the PV graph.

extraneous
right)

In addition to marking the phase boundary, line FC expresses the relationship between saturation pressure and temperature. The saturation pressure generally increases quickly with temperature up to the critical point. There is no vapor-liquid transition above the critical point; therefore, the relationship between saturation pressure and temperature exists only below the critical point. The saturation pressure of pure component is an important physical property and a required parameter in many calculations of phase equilibria. Several equations have been developed to