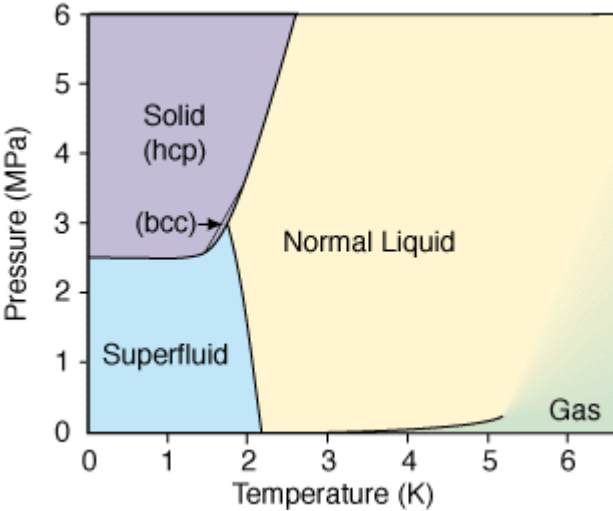
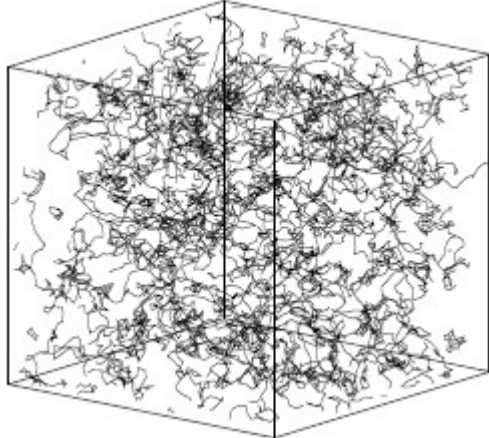
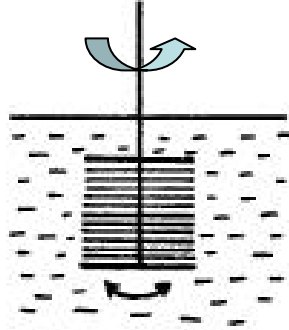


# Superfluid $^4\text{He}$

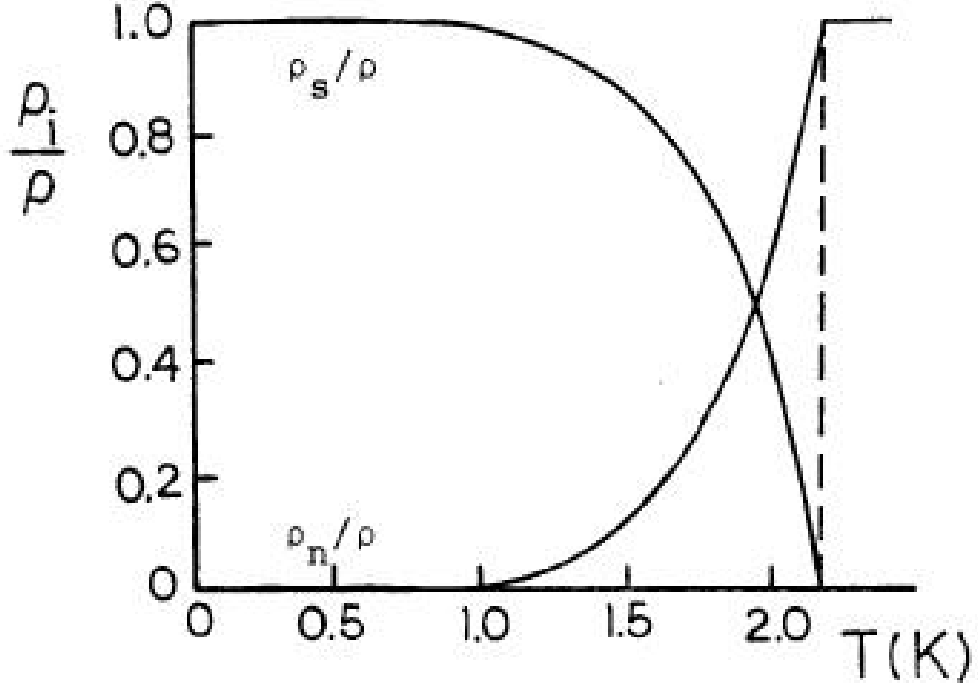
Phase diagram of  $^4\text{He}$



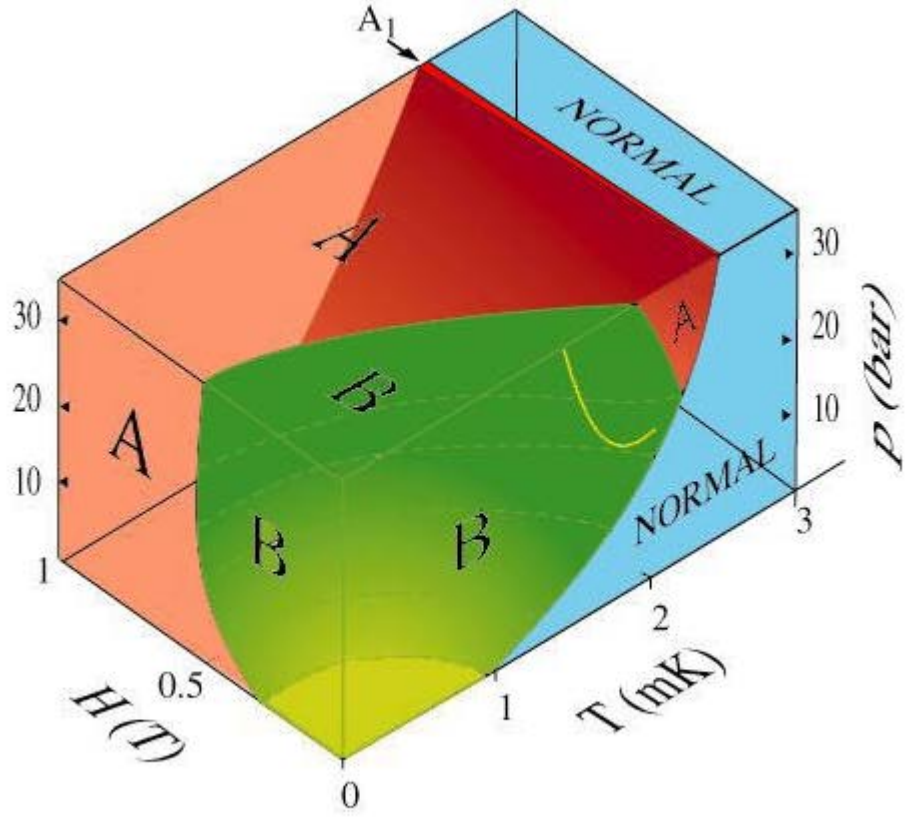
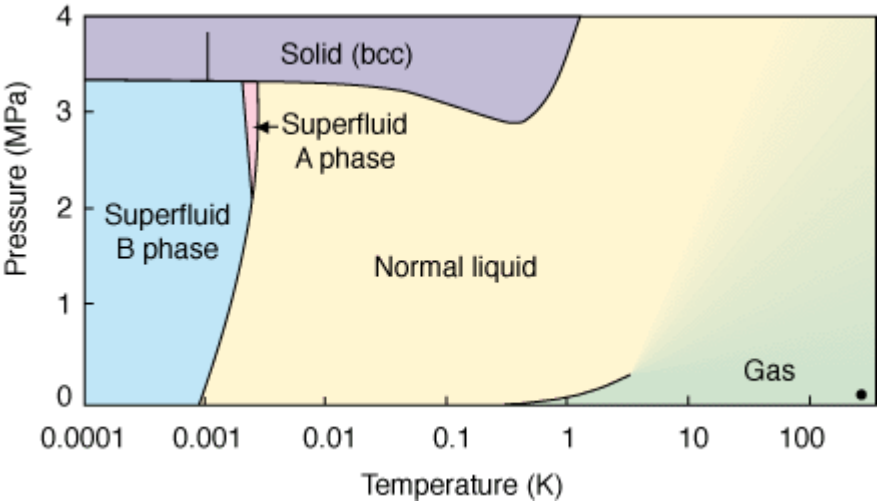
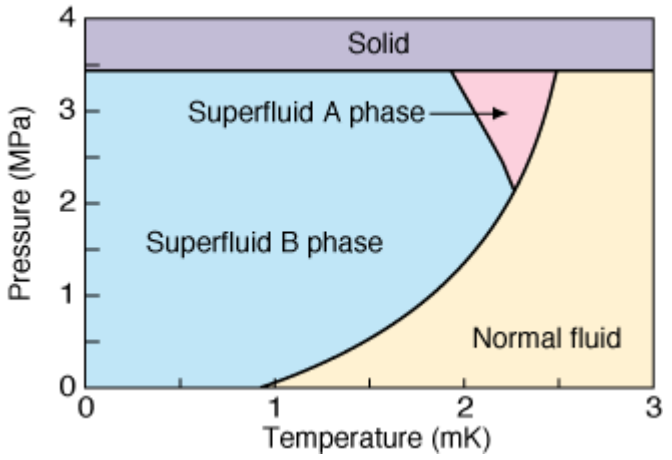
Andronikashvili Experiment



Tangle of vortices in  $^4\text{He-II}$



# Superfluid $^3\text{He}$



# Observation of Stationary Vortex Arrays in Rotating Superfluid Helium

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and

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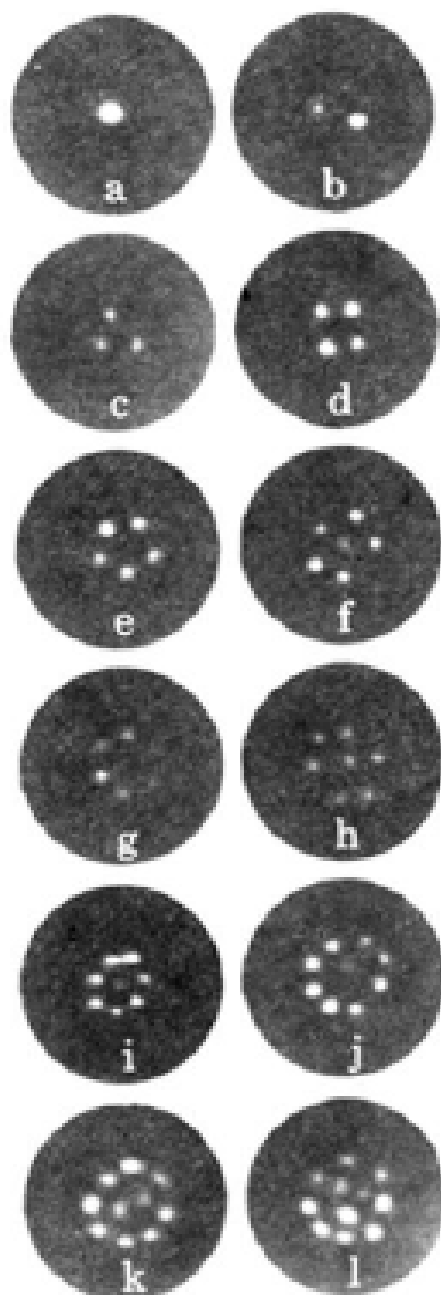


FIG. 2. Photographs of stable vortex arrays. Each photograph is a multiple exposure of 60 consecutive motion-picture frames. The length scale on the photographs is known to an accuracy of approximately 2%. The diameter of the dark circles corresponds to the 2-mm bucket diameter. The arrays were placed symmetrically within the circles. The actual location of the bucket relative to the arrays is not known. The angular velocities were (a)  $0.30 \text{ sec}^{-1}$ , (b)  $0.30 \text{ sec}^{-1}$ , (c)  $0.40 \text{ sec}^{-1}$ , (d)  $0.37 \text{ sec}^{-1}$ , (e)  $0.45 \text{ sec}^{-1}$ , (f)  $0.47 \text{ sec}^{-1}$ , (g)  $0.47 \text{ sec}^{-1}$ , (h)  $0.45 \text{ sec}^{-1}$ , (i)  $0.86 \text{ sec}^{-1}$ , (j)  $0.55 \text{ sec}^{-1}$ , (k)  $0.58 \text{ sec}^{-1}$ , and (l)  $0.59 \text{ sec}^{-1}$ . The two distinct configurations of six vortices appeared alternately at constant angular velocity.