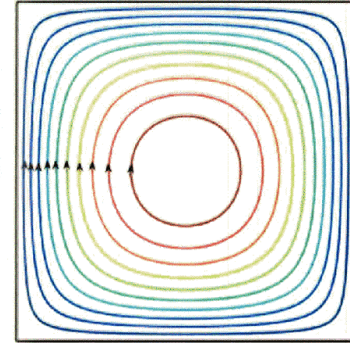


Elimination of the Supersolid State  
Through Crystal Annealing

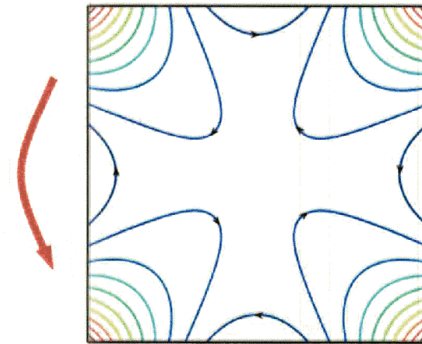
A.S. Riitinen & J.D. Reppy  
Cornell

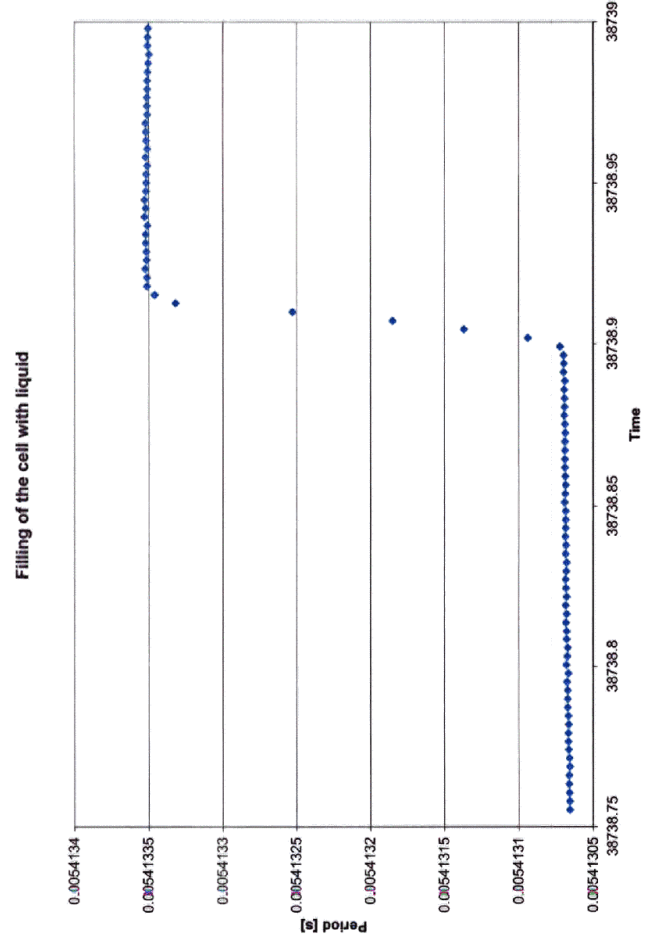
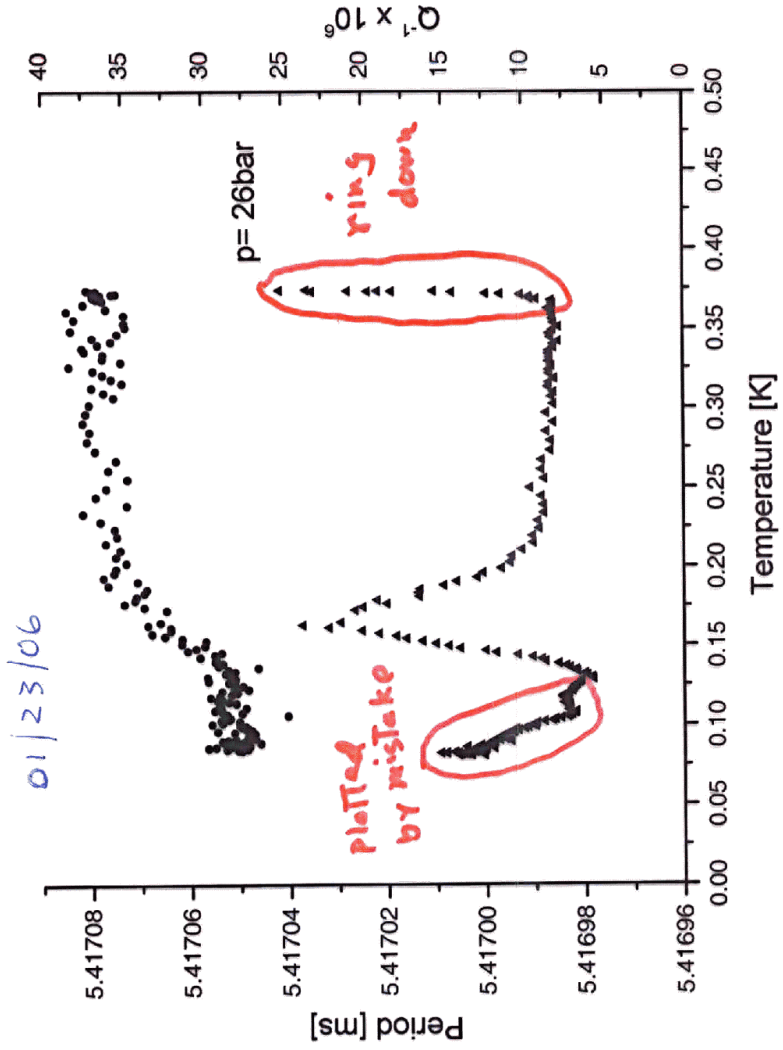
NSF Support

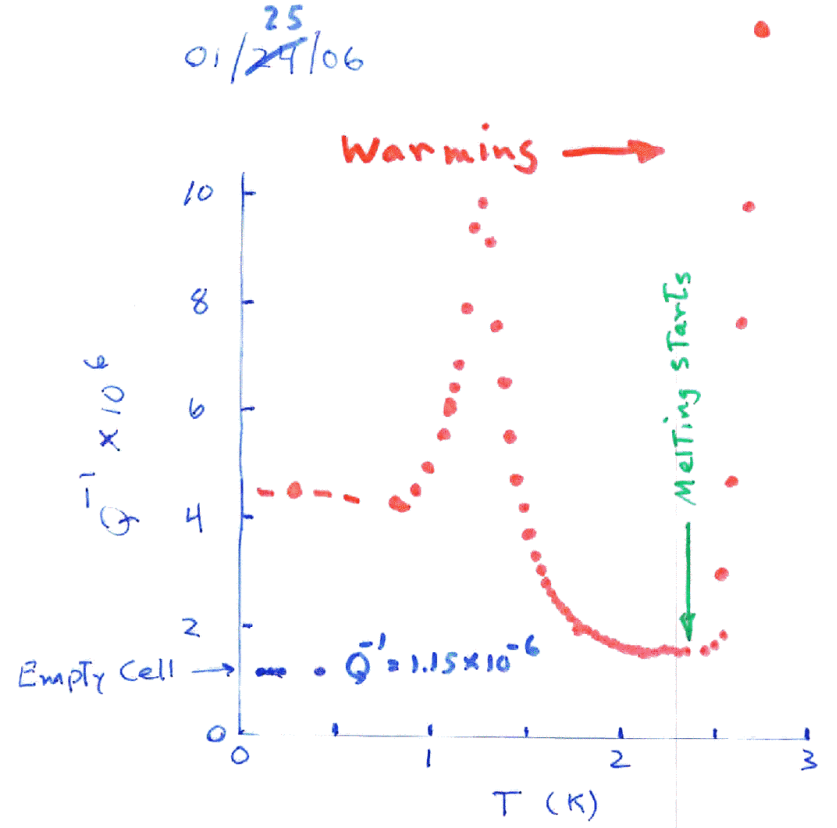
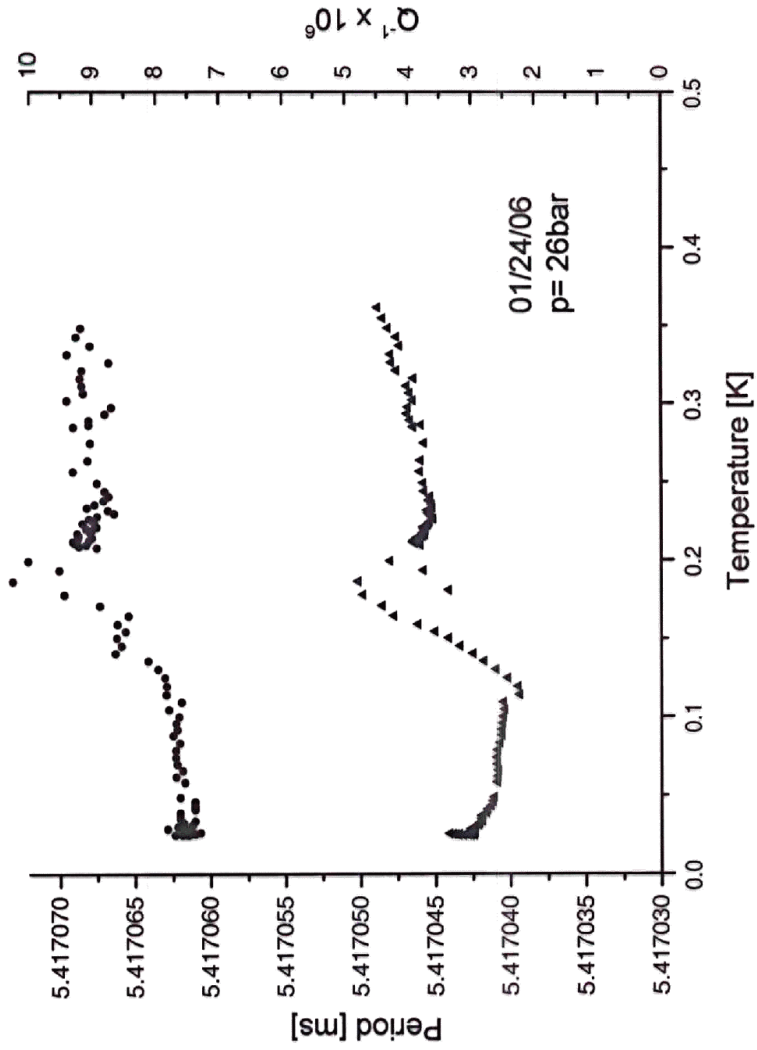
Co-rotating Frame

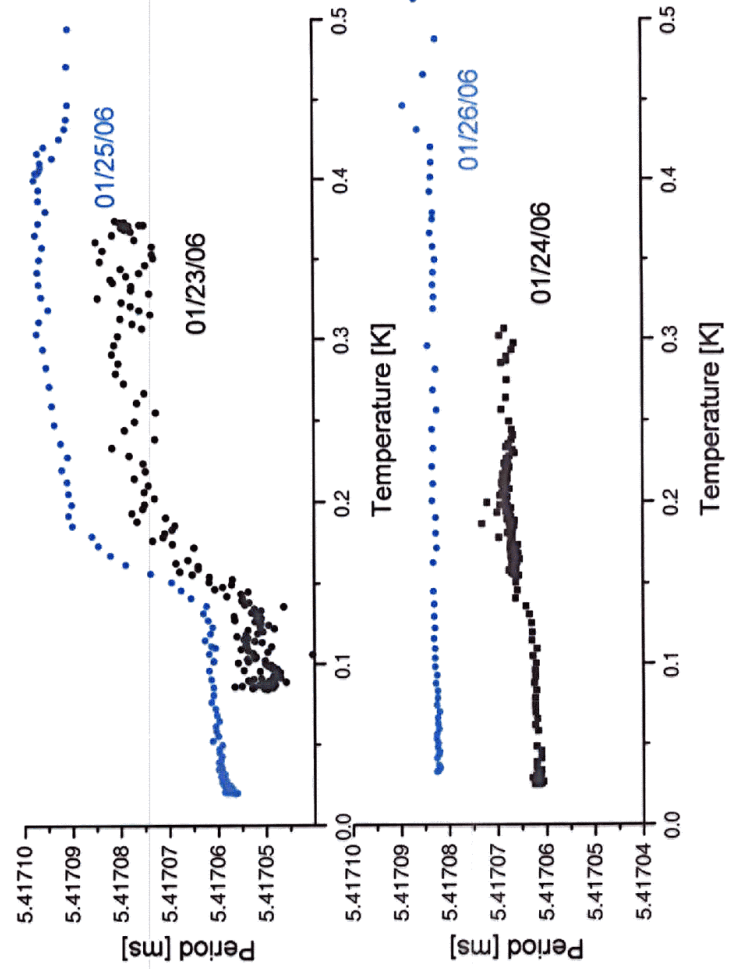
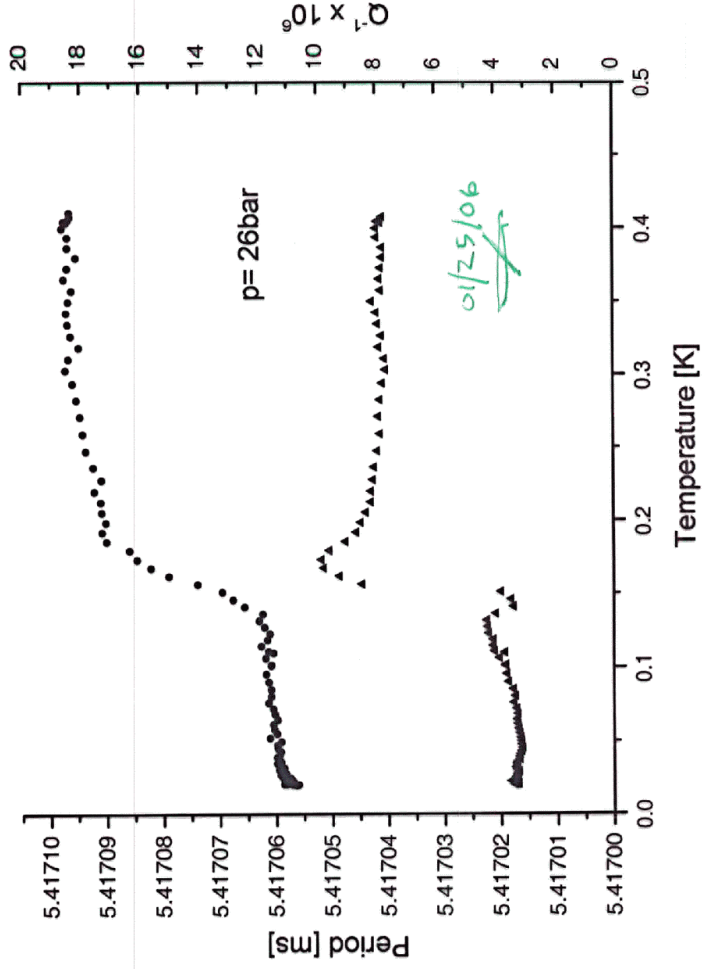


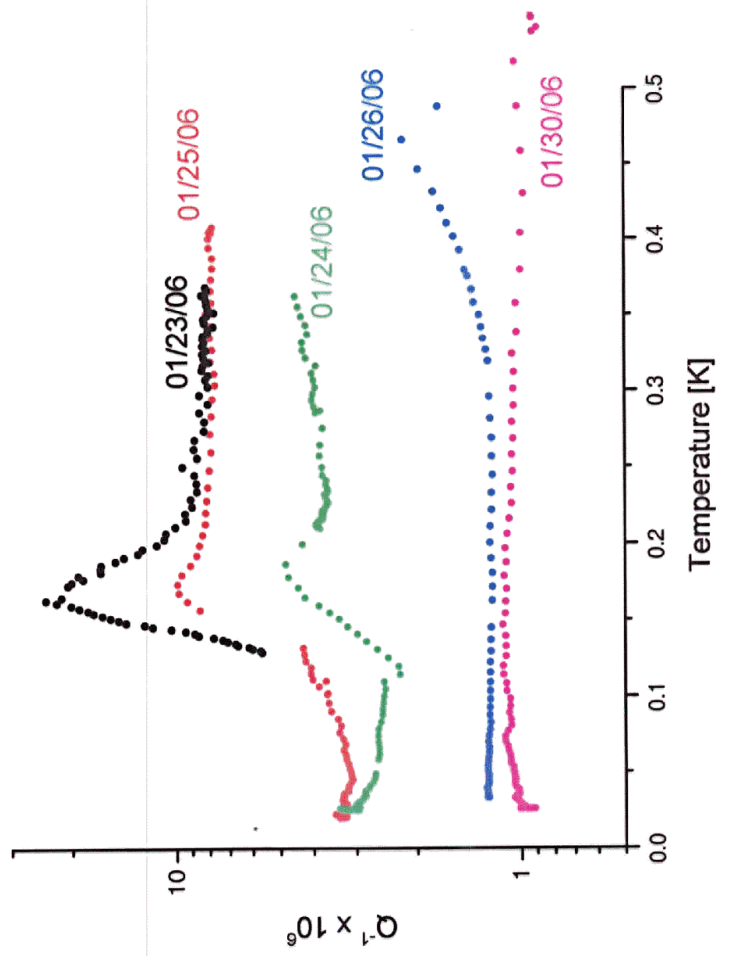
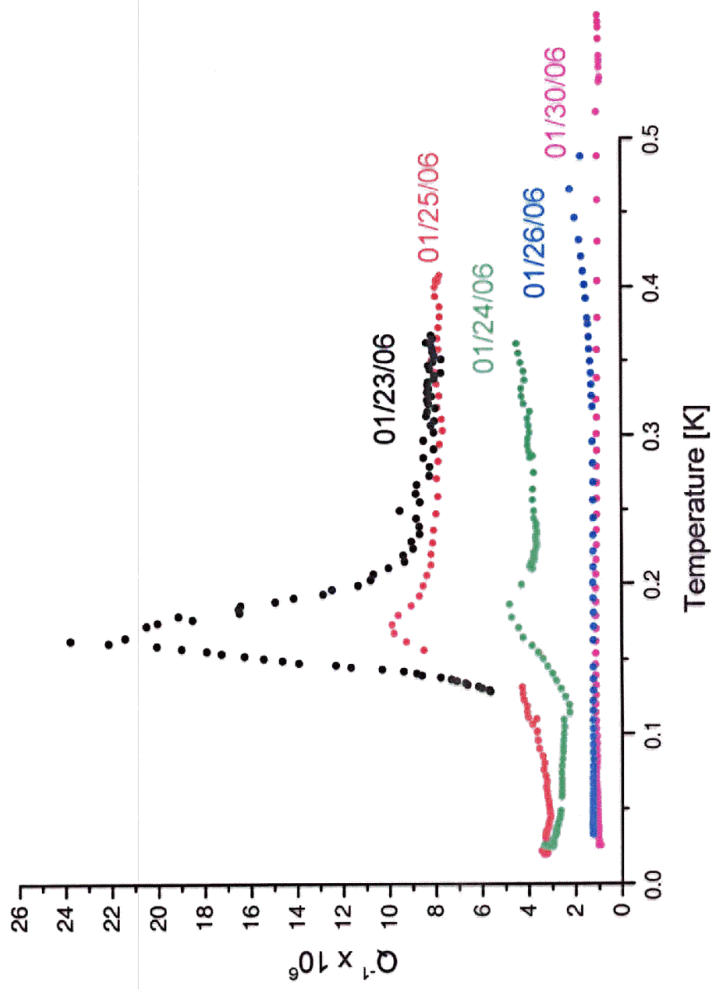
Lab Frame

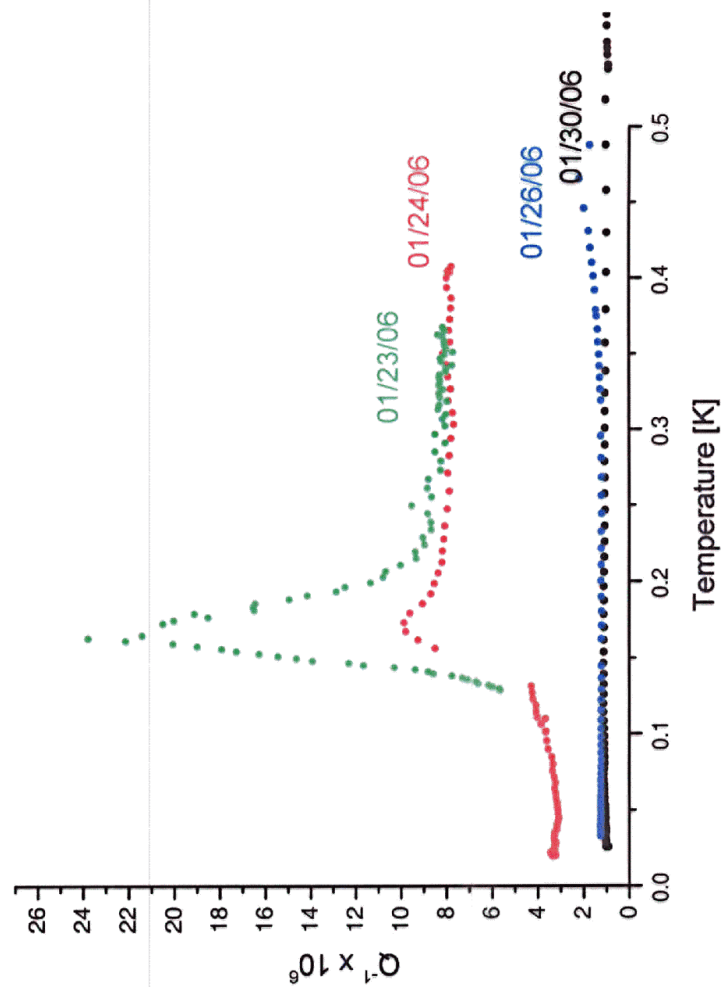












### Conclusions:

1. The results of Kim and Chan are confirmed in bulk solid.
2. There exist Two forms of  $^4\text{He}$  solid:

- a The annealed crystal which does not show a supersolid signal.
- b a disordered form which does show the supersolid phenomena.
- c These forms are distinguished by their contribution to the torsional osc. dissipation above the supersolid transition.