

## Formation of a Glassy Phase in Solid $^4\text{He}$ : Comparison of Rapidly Quenched and Deformed Samples

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A series of experiments has been performed to find out the conditions for the formation of a disordered (glassy) phase in quenched cooled crystals of solid helium and in crystals deformed in situ. In both cases there were found that aside from the usual phonon contribution there is an additional contribution  $\sim T^2$  which is typical for a disordered (glassy) phase. It was found, that changing time of crystal growth from 1.5 min to 60 min does not influences significantly on the glassy contribution. In the deformed crystal a glassy phase appears if the deformation exceeds a critical value, above which the contribution of this phase enhances with increase of deformation degree. It has been shown that, in all crystals, disordered (glassy) phase practically disappears after annealing. For rapidly quenched crystals, during annealing, there was observed a huge drop of pressure turns into by a slow relaxation. However in deformed crystals, only a slow relaxation was observed.