Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Anomalous Crystal Growth In Supercooled OTP On Temperature Cycling STEPHEN C. HALL, Pacific University, SEAN LINDSAY, Pacific Univeristy — It has been previously observed [1] that when the fragile glass former o-terphenyl (OTP) is supercooled to -23 °C, well below its normal freezing temperature but above its glass transition temperature, an anomalous growth mode appears indicated by a sudden increase in the crystal growth velocity. We report observations of this anomalous crystal growth when the temperature is raised briefly above the apparent transition temperature and then cooled back down. We find that when the temperature is raised to -20.5 °C or less the original anomalous growth continues to grow, apparently uninterrupted. When the temperature is raised above -19 °C the original anomalous growth does not continue to grow, although new anomalous growth nucleates. One interpretation of these results is that the transition temperature for the anomalous growth is around -20 °C.

[1] M. Hatase, M. Hanaya, and M. Oguni, J. Non-Cryst. Solids 333, 129 (2004)

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Date submitted: 28 Nov 2009 Electronic form version 1.4