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Amandine Aftalion, Xavier Blanc and **Robert L Jerrard*** (rjerrard@math.toronto.edu),
Department of Mathematics, University of Toronto, Toronto, Ontario M5S 2E4, Canada. *Quantum
and classical behavior in a model for a supersolid.*

Supersolids are a form of matter, thought to exist at extremely low temperatures, that are solid in the sense that they exhibit long-range crystalline structure, and “super” in the sense that mass can flow through them without resistance. Studying a model proposed by Pomeau and Rica, we prove the existence of a crystalline phase, and we also estimate the Non-Classical Rotational Inertia Fraction, which is a measure of the extent to which frictionless flow can occur in the material. (Received August 16, 2007)