

# **Time-dependent Ginzburg-Landau simulations of superconducting vortices in three dimensions**

A. Lara Cala; C. González-Ruano Iriarte; F. Aliev Kazanski

## **Abstract-**

**Here we describe the development of a computer algorithm to simulate the Time-Dependent Ginzburg-Landau equation (TDGL) and its application to understand superconducting vortex dynamics in confined geometries. Our initial motivation to get involved in this task was trying to understand better our experimental measurements on the dynamics of superconductors with vortices at high frequencies leading to microwave stimulated superconductivity due to the presence of vortex [A. Lara, et al., Sci. Rep. 5, 9187 (2015)].**

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