

## **Abstract**

In the present work I study temperature dependence of magnetic penetration depth in superconductors which allows us to determine the symmetry of the order parameter, important for theoretical models. In conventional superconductors we talk about  $s$ -symmetry. Energy gap is isotropic and as a consequence of this fact penetration depth grows exponentially with the temperature. On the other hand, in unconventional superconductors with  $d$ -symmetry we find the power dependence on the temperature. Anyway the exponent depends on impurities and structure of the material and the influence of these parameters is not completely clear at the moment.