

Abstract

Let L be a line on a smooth Riemann surface.

In the study of the Quantum Hall Effect on a Riemann surface we consider the wave functions given by the holomorphic sections of the p -tensor powers of a positive line bundle. The partition function is the square of the L^2 -norm of the Slater determinant built with the help of a basis of such sections. We will explain some mathematic problems related to QHE.