

colloquium

Partial Differential Equations and algebraic geometry

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時 間：102 年 9 月 25 日（三） 2：30 pm

地 點：應用數學系多媒體教室（理 408 室）

摘 要：

The K.d.V. equation is the following nonlinear partial differential equation $u_t + 6uu_x + u_{xxx} = 0$.

Russian mathematician Krichever proposed a systematic way of solving K.d.V equation using algebraic geometry. Later, when Segal and Wilson studied Krichever's construction, they found that moduli space of smooth curves can be embedded into infinite dimensional Grassmannian. Prof. Schwarz and I studied the equivariant cohomology of this map and obtained some interesting results. In this talk, I would like to talk about some basic geometry of algebraic curves (compact Riemann surface) and gives some idea about how to solve the K.d.V (or their hierarchy if time permits).