

THE UNIVERSITY



OF HONG KONG

*Institute of Mathematical Research
Department of Mathematics*

Geometry Seminar

Holomorphic vector bundles on compact Riemann surfaces

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Abstract

For simplicity, I will only consider vector bundles of degree zero. I will start from basic definitions and prove a theorem of A. Weil: Every indecomposable vector bundle of degree zero is induced by a representation of fundamental group of the Riemann surface. Then I will prove the so-called Narasimhan-Seshadri theorem: A vector bundle of degree zero is stable if and only if it is induced by an irreducible unitary representation. Finally, I will talk about some generalizations to nodal curves.

Lecture 1:	February 19, 2004 (Thursday)	4:00 – 5 :00pm
Lecture 2:	February 26, 2004 (Thursday)	4:00 – 5 :00pm
Lecture 3:	March 4, 2004 (Thursday)	4:00 – 5 :00pm
Lecture 4:	March 11, 2004 (Thursday)	4:00 – 5 :00pm

Lectures will be held in Room 517, Meng Wah Complex

All are welcome