

MATHEMATICS DEPARTMENT
North Carolina State University

ALGEBRA SEMINAR

Wednesday, September 22, 2004

Professor Shao-Ming Fei
Capital Normal University, China
and University of Bonn, Germany

Theory of Quantum Entanglement and Related
Mathematics

ABSTRACT: Quantum entangled states are playing very important roles in quantum information processing and computing. We introduce the basic concepts: pure states, mixed states, density matrices, separability, positive partial transposition (PPT) states, measure of entanglement, distillation, bound entangled states, etc., in the theory of quantum entanglement. The classification of quantum states, separability criteria, calculation of entanglement, equivalence of quantum states under local unitary transformation are tightly related to many mathematical aspects. The recent physical and mathematical results on these subjects will be introduced accordingly.

2:35 - 3:25pm HA 335

Faculty and Students are invited to attend.