Student Research Talks (StReeTs)

George Mason University

(Super-)Commutative Algebra

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Abstract

Commutative rings are basic algebraic structures that are ubiquitous throughout mathematics and especially geometry. As an example, smooth functions on a manifold become a ring under pointwise operations - the structure of the ring is strongly connected to the manifold itself. In physical applications one can think of this ring as the ring of observables on a state space as in classical mechanics, but here commutativity becomes a hindrance once one considers both bosons and fermions as variables. The natural condition when considering observables on a space of states of this kind is actually a twist of the commutativity axiom, including a sign dependent on whether the factors of the product are bosonic or fermionic. This condition is called super-commutativity, and this talk will cover the basic structure of super-commutative rings as well as their geometry.

Date: Friday, September 2nd
Time: 2:30pm–3:20pm
Place: Exploratory Hall 4106

Pizza will be served at the presentation.

For further information or for special accommodations (including dietary restrictions), please contact Michael Merkle or Aleyah Dawkins via email at `mmerkle@gmu.edu or adawkin@gmu.edu` by Thursday.