

Algebra Seminar

Wednesday, September 12

Time: 10:30 a.m.

Room: A-1045

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MAPS CHARACTERIZED BY ACTION ON EQUAL PRODUCTS

Let D be a division ring, and let $R = M_n(D)$. Let $m, k \in R$ be fixed invertible elements. We will describe the form of a map $f : R \rightarrow R$ satisfying $f(x)f(y) = m$ whenever $xy = k$. Additionally, let M be the set of all $n \times n$ matrices with complex entries, and let $m, k \in M$ be fixed. We will describe a map $g : M \rightarrow M$ satisfying $g(x) \circ g(y) = m$ whenever $x \circ y = k$, where \circ denotes the Jordan product.