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will speak on

Conjugacy closedness and multilinear mappings

ABSTRACT: Let V be a vector space over a field F , and let f be a symmetric multilinear form of degree n on V . If f vanishes whenever two arguments coincide, then either $f = 0$, or $\text{char } F = 2$. We shall observe that a similar phenomenon exists also when $p = \text{char } F > 2$ if one considers symmetric multilinear forms f such that f vanishes whenever p arguments coincide. All such forms can be derived by a polarization process from mappings of V to F that are analogs of quadratic forms. If $n = p = 3$, then the forms f can be obtained as the associator mappings of conjugacy closed loops. That is similar to the case $n = p = 2$, since in that case one can get quadratic forms as commutators in groups. The notion of conjugacy closedness allows us to extend the notion of code loops also to the odd case, connecting thus constructions of Parker and Richardson (which are related to the Monster group).

MONDAY, MARCH 12, 2007

LECTURE AT 4:00 PM (#)

COFFEE, TEA, AND REFRESHMENTS FROM 3-5 PM

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DEPARTMENT OF MATHEMATICS