

1064-13-163

David L Wehlau* (wehlau@rmc.ca), Dept. of Mathematics and Computer Science, Royal Military College of Canada, Kingston, Ontario K7L 4V1, Canada. *Modular Invariants From Classical Covariants.*

A central problem in algebra in the late nineteenth century and early twentieth century was to compute (generators for) the ring of covariants of a complex representation of $SL_2(C)$. About one third of the algebra papers published in the 1880's in North America concerned this problem.

An important problem in modern invariant theory is to compute (generators for) the ring of invariants of a C_p representation over a field F of characteristic p where C_p denotes the cyclic group of order p . Up until now, this has only been done for a handful of representations.

In this talk I will describe a surprising connection between these two problems and my recent result which demonstrates that the two problems are equivalent. Using this we are able to use classical results to give generators for many new modular representations of C_p . (Received September 07, 2010)