1046-13-1291 **Sarah Glaz*** (glaz@math.uconn.edu), Department of Mathematics, University of Connecticut, Storrs, CT 06269. *Gaussian Properties of Group Rings.* Preliminary report.

Let R be a commutative ring, and let f be a polynomial with coefficients in R. Denote by $c(f)$, the content of f, the ideal of R generated by the coefficients of f. A ring R is called a Gaussian ring if $c(f)c(g) = c(fg)$ for any two polynomials f and g with coefficients in R. Gaussian rings were defined by Tsang in 1965, and became an active topic of investigation due to their connection to Kaplansky's conjecture, which was solved between 1997 and 2005. The focus of these investigations lied in the comparison between the Gaussian property and several related ring theoretic and homological properties. Specifically the properties under consideration are: 1. R is a semihereditary ring. 2. $w.dimR$ is less or equal to 1. 3. R is an arithmetical ring. 4. R is a Gaussian ring. 5. R is locally a Prufer ring. 6. R is a Prufer ring. This talk will discuss the behavior of the six Gaussian-like properties in commutative group rings. In particular, we will consider several results and counterexamples, obtained by the speaker, to questions of ascent and descent of these properties between the ring R and the group ring RG, for an abelian group G. (Received September 15, 2008)