

MATHEMATICS DEPARTMENT  
North Carolina State University

ALGEBRA SEMINAR

Wednesday, November 15, 2006

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Penn State University

Algebraic methods toward higher-order  
probability inequalities

**ABSTRACT:** Let  $L$  be a finite distributive lattice, and let  $f$  and  $g$  be real-valued functions on  $L$  which are monotone increasing with respect to the partial order on  $L$ . For a given probability measure  $m$  on  $L$ , denote by  $E(f)$  the expected value of  $f$  with respect to the probability measure  $m$ . Then the FKG inequality provides a condition on the measure  $m$  under which the covariance,  $Cov(f, g) = E(fg) - E(f)E(g)$ , is nonnegative. We shall discuss a number of higher-order generalizations of the FKG inequality.

3:00 - 3:50 pm    HA 274

Faculty and Students are invited to attend.  
Please note the change in day and room.