1016-14-147 **Hirotachi Abo*** (abo@math.colostate.edu), 101 Weber Building, Department of Mathemtaics, Colorado State University, Fort Collins, CO 80523. *Stable reflexive sheaves associated to the Paley graph.*

Let p be a prime number congruent to 1 modulo 4. The purpose of this talk is to construct a stable rank two reflexive sheaf on projective $(p-1)$-space over an arbitrary algebraically closed field. (In case p is equal to 5, the sheaf is a rank two vector bundle on projective fourspace, which is isomorphic to the Horrocks-Mumford bundle.)

The construction uses a simple graph called the Paley graph $P(p)$. We will show that, for a fixed prime p, computing the ith Chern class c_i of the sheaf can be reduced to counting the number of complete subgraphs of order i in $P(p)$. Then we will apply this formulation to produce a formula for c_i, $i \leq 4$.

These stable sheaves were originally constructed over the complex numbers by Sasakura and his students. (Received February 09, 2006)