

1017-52-208

Corey Dunn (cdunn@uoregon.edu), **Matt S Miller** (mmiller7@uoregon.edu) and **Max D Wakefield*** (mwakefie@uoregon.edu), Department of Mathematics, University of Oregon, Eugene, OR 97403, and **Sebastian Zwicknagl** (szwickna@uoregon.edu). *On nets and orthogonal Latin squares.*

As motivated by the work of Libgober and Yuzvinsky on cohomology of Orlik-Solomon algebras, in this talk we study nets in \mathbb{P}^2 . A special part of the combinatorics of a 4-net is a pair of orthogonal Latin squares. We define equivalence classes of pairs of orthogonal Latin squares so that the corresponding nets combinatorics is isomorphic. Then we exhibit restrictions on Latin squares so that we can count these equivalence classes. Finally, as a corollary we show some non-existence results for 4-nets. (Received February 21, 2006)