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*Mock Seifert matrices and unoriented algebraic concordance*

In this talk, we describe the concordance properties of signature and determinant invariants for knots in thickened surfaces. If $K \subset \Sigma \times I$ is $\mathbb{Z}/2$ null-homologous and slice, we show that its signatures vanish and its determinants are perfect squares. A mock Seifert matrix is an integral square matrix representing the Gordon-Litherland form of a pair $(K, F)$, where $K$ is a knot in a thickened surface and $F$ is an unoriented spanning surface for $K$. Using these matrices, we introduce a new notion of unoriented algebraic concordance, as well as a new group denoted $m\mathcal{G}^{\mathbb{Z}}$ and called the unoriented algebraic concordance group. This group is abelian and infinitely generated. Mock Seifert matrices can also be used to define new invariants, such as the mock Alexander polynomial and mock Levine-Tristram signatures. These invariants are applied to questions about virtual knot concordance, crosscap numbers, and Seifert genus for knots in thickened surfaces. This talk is based on joint works with Hans U. Boden.