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Concordance invariants of null-homologous knots in thickened surfaces.

We study the concordance properties of signature, nullity, and determinant invariants for knots in thickened surfaces. For example, 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. These statements are derived from a cobordism result for closed unoriented surfaces in certain 4-manifolds. The Brown invariants are defined for $\mathbb{Z}/2$ null-homologous links in thickened surfaces. They take values in $\mathbb{Z}/8 \cup \{\infty\}$ and depend on a choice of spanning surface. We study their concordance properties. This is a joint work with Hans U. Boden. (Received December 17, 2021)