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Surfaces and isotopies in 4-manifolds via banded unlinks.

There are a number of well-established ways to represent knotted surfaces and isotopies between them in S^4 , including motion pictures with movie moves, or broken surface diagrams with Roseman moves. In this talk we will discuss another method of representing surfaces in 4-space via banded unlinks, which can also be used to describe surfaces in an arbitrary oriented 4-manifold X. We will present a set of moves which are sufficient to relate any two banded unlink presentations of isotopic surfaces in X, which generalizes a theorem in S^4 due to Swenton. As an application of this theorem we prove that bridge trisections of surfaces in 4-manifolds are unique up to perturbations. This is joint work with Seungwon Kim and Maggie Miller. (Received August 20, 2019)