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Mark Hughes, Seungwon Kim and Maggie Miller* (maggie.miller.math@gmail.com).

Diagrams of immersed surfaces and homotopies of surfaces.

I will discuss a diagrammatic theory for immersed surfaces in 4-manifolds. These diagrams, called singular banded unlink diagrams (SBUDs), consist of singular links with bands attached contained in Kirby diagrams. Any two SBUDs of smoothly equivalent or isotopic (when that notion makes sense) surfaces are related by a finite set of explicit moves; any two SBUDs of homotopic surfaces are related by a slightly larger finite set of explicit moves. In particular, I will give some sample applications of how to use these diagrams to compute surface invariants or construct explicit surface homotopies. (Received September 16, 2021)