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Region crossing change for links on surfaces. Preliminary report.

A region crossing change (RCC) reverses all crossings incident to a region of a link diagram. For diagrams in the plane, Shimizu showed that RCC is an unknotting operation, and Cheng-Gao analyzed which link diagrams in the plane can be unlinked via RCC. In recent work with Dasbach, we investigate checkerboard colorable diagrams on closed, orientable surfaces providing a formula for the number of equivalence classes of such diagrams under RCC. This result requires us to compute the kernel of a certain map on homology. Together with Lowrance and Dasbach, our current aim is to extract the meaning of this result on the level of diagrams and eventually find direct diagrammatic methods for answering RCC-related questions. (Received January 30, 2018)