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Cambridge, MA 02138. *Boundary Surfaces for Virtual Links*. Preliminary report.

Virtual links can be realized as stable equivalence classes of links in thickened surfaces. Given a virtual link  $L$ , a natural problem is to determine what surfaces in the ambient thickened surface have boundary  $L$ . In classical knot theory, every link bounds an orientable surface that encodes the Alexander polynomial and can be used to define additional link invariants, including linking numbers. However, as we will discuss, not every virtual link bounds a surface and only the family of almost-classical virtual links bound orientable surfaces. In this talk, we will define a construction which provides a geometric description for the linking numbers of virtual links and use it to build toward a geometric classification of virtual links that bound surfaces. (Received September 08, 2020)