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Poking around: New insights into wrinkly isometries

Abstract

Poking is a natural way to measure the world around us – how an object resists poking tells us how stiff it is. I will focus on the mechanics of this poking for objects that are extremely thin. Such objects are very difficult to stretch rather than bend and so their isometries are natural ways of understanding their deformation. I will show that the thinness of these objects often leads to wrinkling and, in turn, to isometries that were previously unknown.