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David Richter* (david.richter@wmich.edu), Department of Mathematics, MS 5248, Western Michigan University, Kalamazoo, MI 49008-5248. *Theory and examples of ghost symmetry.*

A “ghost symmetry” of an object is a symmetry which appears in a shadow of that object. Since it is easy to construct objects with at least one ghost symmetry, it is more interesting when an object has many ghost symmetries. If an object has enough ghost symmetries, then it may have a curious “symmetry recovery property”. The purpose of this talk is to present examples of this phenomenon in a variety of contexts, the most prominent coming from projections of classical regular polytopes. (Received September 07, 2011)