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Generalised n-gons with symmetry conditions

A generalised n-gon is an incidence structure whose bipartite incidence graph has diameter n and girth $2n$. Many of the known examples are highly symmetric, and in fact arise naturally from particular group actions.

I will give an overview of some things that are known about symmetries of generalised n-gons, leading toward classification of these objects, or at least to understanding the symmetry they can have. My contributions to this problem are based on joint work with John Bamberg, Michael Giudici and Gordon Royle of the University of Western Australia, and Pablo Spiga of the University of Milan.