Convex Polygons are Self-Coverable

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(joint work with Dömötör Pálvölgyi)

We introduce a new notion for geometric families called self-coverability and show that homothets of convex polygons are self-coverable. As a corollary, we obtain several results about coloring point sets such that any member of the family with many points contains all colors. This is dual (and in some cases equivalent) to the much investigated cover-decomposability problem.