## Variations on the Hadwiger theme

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## Abstract

The Hadwiger number of a convex body K is the maximum number of mutually non-overlapping translates of K that can touch K. We consider several variations of this notion, by replacing translates of K with its  $\mu$ -homothetic images with either  $\mu > 0$ ,  $\mu < 0$ , or combinations of  $\mu$  and  $-\mu$ . In yet another variation, the non-overlapping homothets of K touch the boundary of K from inside. Many open problems and a few examples will be discussed.