1026-52-99 **Rolf Schneider*** (rolf.schneider@math.uni-freiburg.de), Mathematisches Institut, Eckerstr. 1, Freiburg, Germany. *Stability results for convex bodies.*

We report on recent stability results for convex bodies, the first two belonging to geometric tomography, and the second to affine inequalities. First, we provide simple data for the determination of non-symmetric bodies by projections or sections, and obtain explicit estimates quantifying the following. If the orthogonal projections of two convex bodies have their mean widths and their Steiner points close together, then the bodies are close to each other. If the hyperplane sections through a common interior point of two convex bodies have their volumes and their centroids close together, then the bodies are close to each other (the latter is joint work with Károly Böröczky Jr.).

Second, for a convex body, define the volume quotient as the ratio of the smallest volume of the circumscribed ellipsoids to the largest volume of the inscribed ellipsoids. It attains its maximum if and only if the body is a simplex. We improve this result by estimating the Banach–Mazur distance of the body from a simplex if its volume quotient is close to the maximum (joint work with Daniel Hug). (Received February 19, 2007)