Let $A$ be a finite subset of an abelian group. The sumset $A + A$ is the set of all pairwise sums $a + b$ where $a$ and $b$ are elements of $A$. One of the central results in additive combinatorics is Freiman’s theorem which describes the structure of sets with small sumsets. In this talk we consider the following problem; suppose that $|A + A| \leq |A|^{3/2}$. Under what conditions can we guarantee that a large subset $B \subset A + A$ has small doubling? (i.e. $|B + B| \leq C|B|$ where $C$ is a slow-growing function of $|B|$) We will see that this is the case when $A$ is uniform enough. We will illustrate the result with applications to the sum-product conjecture and some related problems. (Received September 15, 2009)