Translation planes of order $q^n$ admitting a collineation group of order $(q^n - 1)/(q - 1)$. Translation planes of order $q^n$ admitting a collineation group of order $(q^n - 1)/(q - 1)$ are studied and, in certain cases, characterized and compared to known planes.

A new class of planes of this type, $jj\cdots j$-planes, will be presented and discussed.

Some classes of planes of this type may be related to flat flocks of Grassmanian varieties; that will also be explained. (Received January 22, 2007)