

## Ordered Moufang sets

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An ordering of a projective plane  $\pi = (\mathfrak{P}, \mathfrak{L})$  is given by an ordering of the point row  $(l)$  for every line  $l \in \mathfrak{L}$  which is compatible with projectivities. If  $\pi$  is a Moufang plane, then every point row carries the structure of a *Moufang set*. This motivates the examination of ordered Moufang sets. A Moufang set consists of a non-empty set  $X$  together with a family of subgroups  $(U_x)_{x \in X}$  of  $\text{Sym}X$  (called *root groups*) such that for all  $x \in X$  the group  $U_x$  stabilizes  $x$ , acts regularly on  $X \setminus \{x\}$  and normalizes  $\{U_y | y \in X\}$  by conjugation. An ordering of a Moufang set  $(X, (U_x)_{x \in X})$  is a cyclic order of  $X$  which is preserved by all root groups. Therefore every root group is a right-ordered group. In case that the root groups are totally ordered, several interesting results can be derived.