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Joseph A Thas* (jat@cage.ugent.be), Department of Pure Mathematics and Computer,
Algebra - Ghent University, Krijgslaan 281 - S22, 9000 Ghent, Belgium. *Generalized quadrangles
and the BLT-property.*

The “classical” BLT-*set* is a non-empty set \mathcal{B} of disjoint lines of the generalized quadrangle $W(q)$ with the property that every line of $W(q)$ which is not a member of \mathcal{B} meets nontrivially exactly two or none of the lines of \mathcal{B} . This object was introduced by Bader, Lunardon and Thas, and, relying on work of Payne and Kantor, many applications to generalized quadrangles of order (q, q^2) were obtained. By Shult and Thas a nonempty collection \mathcal{B} of disjoint totally singular $\text{PG}(m, q)$ s of a nonsingular polar space \mathcal{P} satisfies the BLT-*property* if no line of \mathcal{P} meets nontrivially three members of \mathcal{B} . A *partial m -system* \mathcal{M} of a nonsingular polar space \mathcal{P} is a set of mutually disjoint totally singular m -dimensional subspaces of \mathcal{P} with the property that no maximal totally singular subspace of \mathcal{P} that contains an element of \mathcal{M} intersects any other element of \mathcal{M} . Shult and Thas show that from a partial m -system satisfying the BLT-property and having suitable size, a generalized quadrangle can be constructed. We will survey this topic and mention some new results. (Received December 20, 2006)