

# Contents

Introduction	ix
Acknowledgment	xi
Chapter 1. Tits polygons	1
1.1. Basic definitions	2
1.2. Examples	4
1.3. Commutator relations	13
1.4. Opposite roots	19
1.5. Uniqueness	23
1.6. A bound on $n$	30
Chapter 2. Tits hexagons	37
2.1. Cubic norm structures	38
2.2. Hexagons	42
2.3. Coordinates for $\Delta$	45
2.4. Hexagons of polar type	49
2.5. The associated cubic norm structure	54
2.6. Automorphisms and classification	60
Chapter 3. Groups of relative rank 1	67
3.1. Descent	68
3.2. The subgraph $\Lambda$	69
3.3. The Galois involution $\omega$	72
3.4. The Moufang set $\mathbb{M}(\Delta, \langle \omega \rangle)$	75
3.5. The structure map $\tau$	78
3.6. The generic case	81
3.7. A formula for $\tau$	83
3.8. Arbitrary Galois groups	88
Chapter 4. Appendix by Holger P. Petersson	93
4.1. Cubic norm structures	93
4.2. The cubic norm structure $\mathcal{H}(C, K)$	101
4.3. Irreducibility of the structure group	105
Bibliography	111
Index	113