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Nota di contenuto	Intro -- Preface -- Contents -- 1 Introduction -- 2 Preliminaries -- Notational Conventions -- 2.1 Probabilistic Method -- 2.2 Classical Groups -- 2.3 Actions of Classical Groups -- 2.4 Standard Bases -- 2.5 Classical Algebraic Groups -- 2.6 Maximal Subgroups of Classical Groups -- 2.7 Computational Methods -- 3 Shintani Descent -- 3.1 Introduction -- 3.2 Properties -- 3.3 Applications -- 3.4 Generalisation -- 4 Fixed Point Ratios -- 4.1 Subspace Actions -- 4.2 Nonsubspace Actions -- 5 Orthogonal Groups -- 5.1 Introduction -- 5.2 Automorphisms -- 5.2.1 Preliminaries -- 5.2.2 Plus-Type -- 5.2.3 Minus-Type -- 5.2.4 Conjugacy of Outer Automorphisms -- 5.3 Elements -- 5.3.1 Preliminaries -- 5.3.2 Types of Semisimple Elements -- 5.3.3 Reflections -- 5.3.4 Field Extension Subgroups -- 5.4 Case I: Semilinear Automorphisms -- 5.4.1 Case I(a) -- 5.4.2 Case I(b) -- 5.5 Case II: Linear Automorphisms -- 5.5.1 Case II(a) -- 5.5.2 Case II(b) -- 5.6 Case III: Triality Automorphisms -- 5.6.1 Case III(a) -- 5.6.2 Case III(b) -- 5.6.3 Case III(c) -- 6 Unitary Groups -- 6.1 Introduction -- 6.2 Automorphisms -- 6.3 Elements -- 6.4 Case I: Semilinear Automorphisms -- 6.4.1 Case I(a) -- 6.4.2 Case I(b) -- 6.5 Case II: Linear Automorphisms -- 6.5.1 Case II(a) -- 6.5.2 Case II(b) -- 6.6 Linear Groups -- A Magma Code -- References.
Sommario/riassunto	This monograph studies generating sets of almost simple classical groups, by bounding the spread of these groups. Guralnick and Kantor resolved a 1962 question of Steinberg by proving that in a finite simple

group, every nontrivial element belongs to a generating pair. Groups with this property are said to be $3/2$ -generated. Breuer, Guralnick and Kantor conjectured that a finite group is $3/2$ -generated if and only if every proper quotient is cyclic. We prove a strong version of this conjecture for almost simple classical groups, by bounding the spread of these groups. This involves analysing the automorphisms, fixed point ratios and subgroup structure of almost simple classical groups, so the first half of this monograph is dedicated to these general topics. In particular, we give a general exposition of Shintani descent. This monograph will interest researchers in group generation, but the opening chapters also serve as a general introduction to the almost simple classical groups. .
