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Nota di contenuto	Cover -- Title page -- Chapter 1. Introduction -- Chapter 2. Notation and Preliminaries -- Chapter 3. Maximal Subgroups -- Chapter 4. Maximal Subgroups and Subspace Stabilizers -- Chapter 5. Blueprint Theorems for Semisimple Elements -- 5.1. Preliminary Results -- 5.2. Determination of the Bounds for the Minimal Module -- 5.3. Consequences for Maximal Subgroups -- Chapter 6. Unipotent and Semisimple Elements -- 6.1. Actions of Unipotent Elements -- 6.2. Blueprints and Element Orders -- 6.3. Blueprints inside Subgroups of Type -- 6.4. Traces of Modules for $\backslash\mathrm{PGL}$ -- 6.5. The Graph Automorphism of -- 6.6. Rank-1 Subalgebras of the Lie Algebra -- Chapter 7. Modules for $\backslash\mathrm{SL}$ -- 7.1. Modules for $\backslash\mathrm{SL}(2^{\{ \}}$ -- 7.2. Modules for $\backslash\mathrm{SL}(3^{\{ \}}$ -- 7.3. Modules for $\backslash\mathrm{SL}()$ -- 7.4. Modules for $\backslash\mathrm{SL}(^{\{ \}}$ for 5 and ≥ 1 -- Chapter 8. Some $\backslash\mathrm{PSL}$ s inside in Characteristic 3 -- Chapter 9. Proof of the Theorems: Strategy -- Chapter 10. The Proof for -- 10.1. Characteristic 2 -- 10.2.

Characteristic 3 -- 10.3. Characteristic At Least 5 -- Chapter 11. The Proof for -- 11.1. Characteristic 2 -- 11.2. Characteristic 3 -- 11.3. Characteristic At Least 5 -- Chapter 12. The Proof for in Characteristic 2 -- Chapter 13. The Proof for in Odd Characteristic: \PSL Embedding -- 13.1. Characteristic 3 -- 13.2. Characteristic At Least 5 -- Chapter 14. The Proof for in Odd Characteristic: \SL Embedding -- 14.1. Characteristic 3 -- 14.2. Characteristic At Least 5 -- Appendix A. Actions of Maximal Positive-Dimensional Subgroups on Minimal and Adjoint Modules -- Appendix B. Traces of Small-Order Semisimple Elements -- Bibliography -- Back Cover.

Sommario/riassunto

"We study embeddings of $\mathrm{PSL}_2(pa)$ into exceptional groups $G(pb)$ for $G = F_4, E_6, 2E_6, E_7$, and p a prime with a, b positive integers. With a few possible exceptions, we prove that any almost simple group with socle $\mathrm{PSL}_2(pa)$, that is maximal inside an almost simple exceptional group of Lie type $F_4, E_6, 2E_6$ and E_7 , is the fixed points under the Frobenius map of a corresponding maximal closed subgroup of type A_1 inside the algebraic group. Together with a recent result of Burness and Testerman for p the Coxeter number plus one, this proves that all maximal subgroups with socle $\mathrm{PSL}_2(pa)$ inside these finite almost simple groups are known, with three possible exceptions ($pa = 7, 8, 25$ for E_7). In the three remaining cases we provide considerable information about a potential maximal subgroup"--
