

Oberseminar

Maximal subgroups, Aschbacher's theorem

WS 25/26

Termin: **Mo. 15:30 – 17:00 (Raum 48 - 436)**

Beginn: 27. Oktober 2025

27.10.25	G. Malle	Organisational meeting
3.11.25	A. Bartelt	Maximal subgroups of symmetric groups ([Cm, Cm2, KL, RD])
10.11.25	M. Albert	Spaces with forms, classical groups ([Asch, §§19,20], [Tay, Gr])
17.11.25	T. Wiedemann	Parabolic subgroups and Borel–Tits ([MT, Prop. 12.13, Thm 17.10])
24.11.25	G. Malle	The reduction theorem for classical algebraic groups ([MT, §18.1 up to Prop. 18.4])
1.12.25	E. Salati	The Liebeck–Seitz theorem for classical algebraic groups ([MT, rest of §18.1])
8.12.25	E. Salati	The Dynkin–Seitz–Testerman theorem ([MT, Thm 18.7])
15.12.25	C. Lassueur	Classical groups over finite fields ([Asch, §21],[Gr])
5.1.26	N. Gritti	The Liebeck–Seitz theorem for finite classical groups ([MT, Thm 27.4])
12.1.26	N. Gritti	The theorem of Aschbacher ([MT, Thm 27.5])
19.1.26	NN	On the Aschbacher classes ([MT, §28])
26.1.26	NN	More on Aschbacher class $\mathcal{S}$ ([?])

LITERATUR

- [Asch] M. ASCHBACHER, *Finite Group Theory*. 2nd edition. Cambridge University Press, Cambridge, 2000.
- [Cm] P. CAMERON, Finite permutation groups and finite simple groups. *Bull. London Math. Soc.* **13** (1981), 1–22.
- [Cm2] P. CAMERON, <https://cameroncounts.wordpress.com/2011/04/21/the-symmetric-group-12/>
- [Gr] L. C. GROVE, *Classical Groups and Geometric Algebra*. Graduate Studies in Mathematics, 39. American Mathematical Society, Providence, RI, 2002.
- [KL] P. KLEIDMAN, M. W. LIEBECK, A survey of the maximal subgroups of the finite simple groups. *Geom. Dedicata* **25** (1988), 375–389.
- [MT] G. MALLE, D. TESTERMAN, *Linear Algebraic Groups and Finite Groups of Lie Type*. Cambridge University Press, Cambridge, 2011.
- [RD] C. RONEY-DOUGAL, Maximal subgroups of finite simple groups: classifications and applications. Surveys in combinatorics 2021, 343–369, Cambridge Univ. Press, Cambridge, 2021.
- [Tay] D. E. TAYLOR, *The Geometry of the Classical Groups*. Heldermann Verlag, Berlin, 1992.

Interessierte Hörer sowie weitere Vortragende sind herzlich willkommen!