

CHARACTER THEORY OF FINITE GROUPS

SOMMERSEMESTER 2020

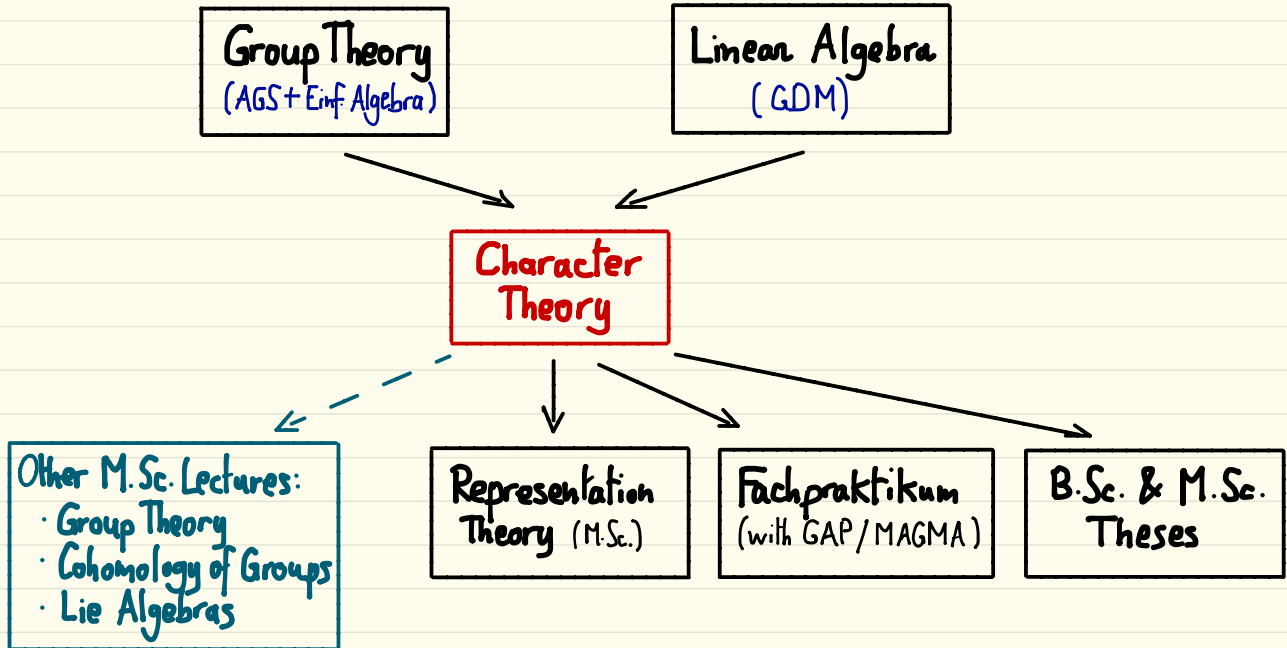
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A. BEFORE AND AFTER



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B. INTRODUCTION

Aims of the lecture:

- Character Tables of finite groups:
- What are they?
 - Elementary methods to compute them.
 - What information about finite groups do they contain?
- Give a proof of:

Burnside's $p^a q^b$ -Theorem: Let p, q be prime numbers and let $a, b \in \mathbb{N}_0$.
(1911) Then any finite group of order $p^a q^b$ is soluble.

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C. PROGRAMME

The main topics of the lecture are:

- I. Linear representations of finite groups
- II. Characters of representations
- III. The character table
- IV. Burnside's $p^a q^b$ -Theorem
- V. Induction and restriction
- VI. Brauer's Characterization of characters. (If time permits)