

Advanced quantum mechanics and quantum field theory, FS 2021

Bonus-Blatt 11

Submission: 03.06.2021, 12:00H, on adam in the appropriate folder.

One file per submission please; the filename HAS TO contain your name, or the submission will not be corrected!

Discussion: upon request

- (1) **Trace tricks** (3 Bonus-Punkte)
Verify the trace tricks shown in the margin of p. 356 of Lancaster/Blundell.
- (2) **Crossing symmetry** (3 Bonus-Punkte)
Read and explain Section 40.4 in your own words. Find another example.
- (3) **Lancaster/Blundell problem 36.7** (3 Bonus-Punkte)
We will need the Gordon identity (that is derived here) when we will calculate the g -factor of the electron.
- (4) **Lancaster/Blundell problem 41.1** (3 Bonus-Punkte)
- (5) **Lancaster/Blundell problem 41.2** (3 Bonus-Punkte)
- (6) **Lancaster/Blundell problem 41.3** (3 Bonus-Punkte)
- (7) **Lancaster/Blundell problem 41.5** (2 Bonus-Punkte)