Excercises for the session on July 15

Exercise 1: Solve Problem 12.3.

Exercise 2: Solve Problem 13.2.

Exercise 3: In the proof of Theorem 11.6 show that $\mathbb{U}^*_{\mathcal{V}_{\mathcal{A}}}|0\rangle$ is a ground state for the Hamiltonian $H^{\pm}_{\mathcal{A}}$.

Exercise 4: Express the Bogolubov energy $\mathcal{E}^{B_0}(\Gamma, \phi)$ in terms of the components γ and α of the generalized one-particle density matrix Γ.