Examination topics 2023/24
Introduction to quantization
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1. Hilbert-Schmidt operators and their integral kernels

2. x, p quantization

3. Weyl quantization

4. The Baker-Cambell-Hausdorff formula, and the Weyl quantization in terms of Weyl operators

5. The parity operator and its relationship to Weyl quantization

6. Coherent states.

7. Covariant and contravariant quantization

8. Wick and anti-Wick quantization

9. Functional calculus and semiclassical quantization.

10. Semiclassical asymptotics of the dynamics and the Egorov Theorem

11. Weyl asymptotics of the number of eigenvalues of Schrödinger operators

12. Metaplectic group in the Schrödinger representation

13. Metaplectic group in the Fock representation

14. Path integral for the evolution generated by a quadratic Hamiltonian.