

Abstract: The objective of this bachelor thesis is to prepare a study text on selected topics of quantum mechanics, which would be appropriate for the second year students of education of Physics at FMP CU attending the Quantum mechanics course. This thesis consists of two topics – Multiparticle Systems and Chemical Bond. The study text should help students understand the mathematical methods used in the field of multiparticle systems, and solve elementary problems. The text also extends secondary-school chemistry knowledge about atom orbitals and chemical bond and provides an explanation of the structure of simple molecules using the valence bond theory. The thesis is based on author's own experience of the Quantum mechanics course, the main sources are the foreign textbooks of quantum mechanics and author's own notes from lectures held on FMP CU.