Title:	Study of Magnetic traps and Radio frequency dressed state potentials
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Abstract:	The aim of this thesis is to understand and explore radio frequency dressed state potentials for Bose-Einstein condensate. The basic understanding of micro traps use to produce magnetic trapping were first developed. Particularly the U and Z shape wire, which produces 3-dimensional trapping of neutral atoms, were studied in detail. Later on the these trap are combined with rf field of varying polarization. The rfinduced potentials greatly enhances the flexibility and robustness of trapping atoms. For example the double well potential, ring potential and state dependent potential are illustrated. These studies have been used recently in the experiments on matter wave interferometery on an atom chip [1]. In the last section the physics of single particle in periodic potentials is studied. To produce periodic potentials, two different magnetic trap designs are proposed.
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