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# Chapter 2 – Survey of theoretical methods

## Hartree-Fock method

* Find cites and do reading

## Density Functional Theory (DFT)

### Bethe-Saltpeter

Text.

### Self-consistent field

Text.

### Hybrid functionals

Text.

### Gaussian basis sets

Text.

## Overview of available codes and their levels of theory

### Time-dependent DFT (TD-DFT)

#### NWChem

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#### FEFF

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#### OCEAN

### Finite element

#### FDMNES

### Non-DFT theories include multiplets

#### CTM4XAS

#### Quanty

## References