# STC Mid-Project Review

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## Things have been done

- Constructed project github repository, built wiki page for general review of the project and guidline for group members. (`https://github.com/SuperYuLu/STC-2016`)
- Code main.cc to provide general guidline for the programming
- Constructed geometry setup of Anti-Helmholtz coil, as shown in figure 1
- Wrote function *calCurrent* for class *traps* to generate sine and trangle shaped current signal
- Wrote function *calField* for class *trap* to calculate the magnetic field generate by Anti-Helmholtz coils, based on the geometry setup and calculated current
- Wrote function *func_findFieldMax* and *func_findFieldMin* to find the magnetic field maxmium / minimium and corresponding position.

## Things to be done

- Combine multiple functions into main program, test compatbility
- Run calculation to simulate the switching of nearby magnetic traps
- Vary Geometry, current pulse shape and activating time of each magnetic trap, compare and analyze the oscillation of field minimiun
- Try to find a optimized geometry, timing, pulse shape parameter to reduce the oscillation of the field minimium.
- Optimize the code, parallelize possible sections, analyze the code performance.
- Prepare for report and presentation

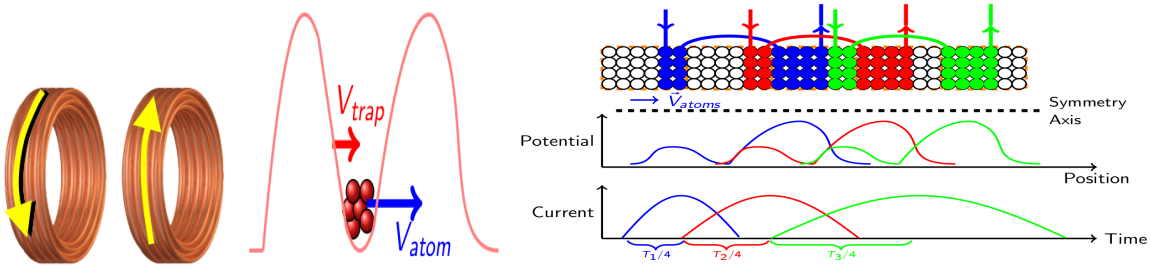


Figure 1: (A) Anti-Helmholtz coil. (B) Atoms in the magnetic trap. (C) Schematic for generating co-moving magnetic trap