

"Black Hole" a Template for a Optimal HPC SAT Solver

Features:

- Optimal Memory Usage, for the CNF formula exist +L and -L pointers to positive literals and negative literals, then the clauses point to this structures.
- Space Modification, the entire structure of CNF formula can be changes modifying +L and -L coordinadamente, obtaining a new formula equivalent to the first.
- The solution assignment is converted from the Modified space to the original Formula automatically.
- Include a very simple SAT solver, https://github.com/maxtuno/quark_sat a QuarkSAT implementation, as a simple example.

To build:

```
mkdir build
```

```
cd build
```

```
cmake -DCMAKEBUILDTYPE=MinRelSize ..
```

```
make
```

Try: (Homework)

- 10 Assign a literal
- Propagate
- If conflict do CDCL else goto 20
- minimize the falsified clauses on F and get F'
- $F \leftarrow F'$ goto 10
- 20 The assignment and formula for this assignment
- Obtain the solution for the original formula its trivial

More of my work: <https://twitter.com/maxtuno>