The boolean Pythagorean Triples problem

subtitle

Aldo [family name]
Tobias John
Patrick Wienhöft

TU Dresden

date of the presentation

Example

- **Set of Integers:** $\{1, \ldots, 10\}$

Example

- **Set of Integers:** $\{1, \ldots, 10\}$
- **Triples:**

$$3^2 + 4^2 = 5^2$$

$$3^2 + 9^2 = 10^2$$

$$6^2 + 9^2 = 10^2$$

Example

- **Set of Integers:** $\{1, \ldots, 10\}$
- **Triples:**

$$3^2 + 4^2 = 5^2$$

$$3^2 + 9^2 = 10^2$$

$$6^2 + 9^2 = 10^2$$

- **Partition:** $\{1, 2, 3, 4, 6, 7, 8, 9\}, \{5, 10\}$

Cube-and-conquer solving

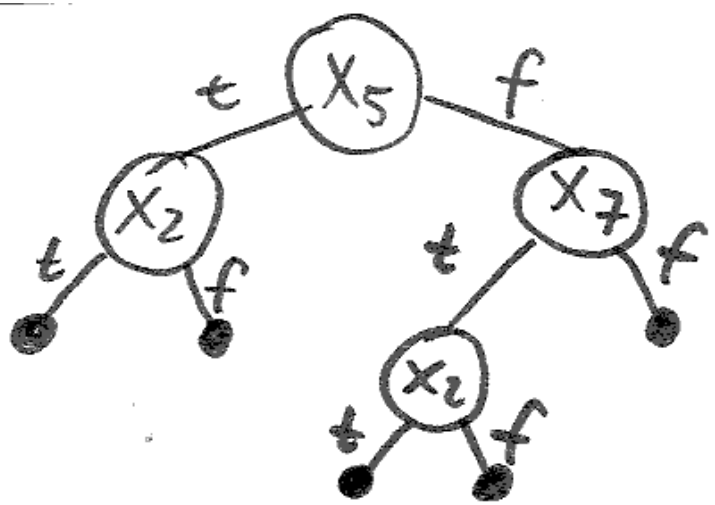
- **Problem: solving with conflict-driven clause leraning (CDCL) is to slow**

Cube-and-conquer solving

- **Problem: solving with conflict-driven clause leraning (CDCL) is to slow**
- **Solution: use different heuristics $\Rightarrow$ cube-and-conquer solver (C&C)**

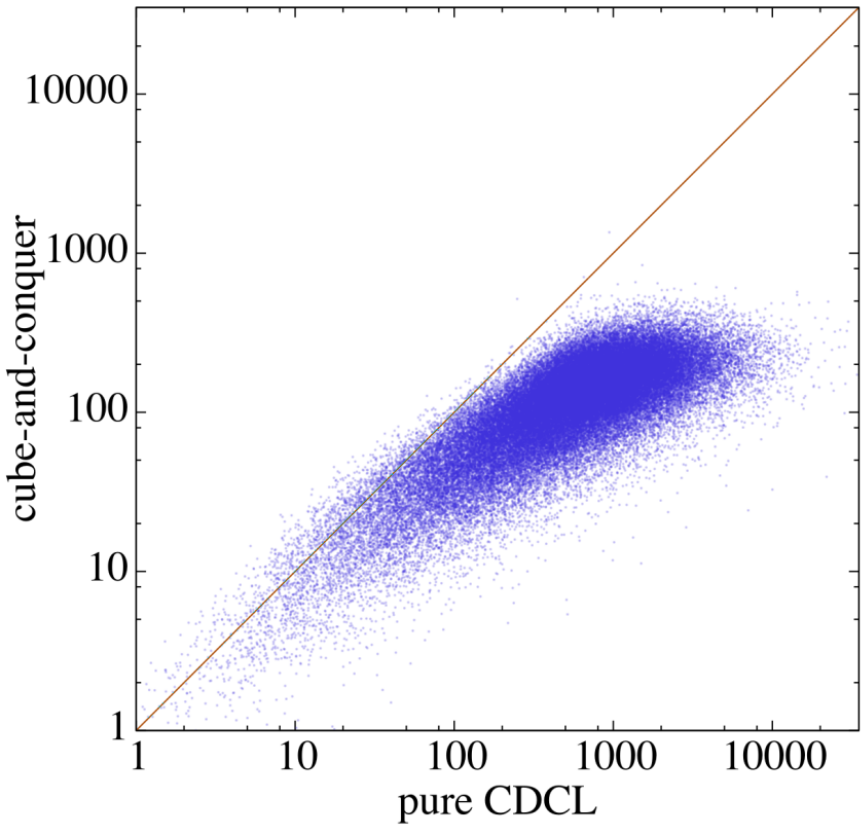
Cube-and-conquer solving

- **Problem: solving with conflict-driven clause leraning (CDCL) is to slow**
- **Solution: use different heuristics $\Rightarrow$ cube-and-conquer solver (C&C)**



Runtime

- **x time**



Validation of the program