Allocating Rotating Registers by Scheduling

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Rotating Registers for Alias Detection

- Given a software pipelined schedule of a loop, how to allocate registers?
  - Detect ALL aliases
  - No false positive
  - Minimal spilling
  - Minimal registers
Rotating Register Allocation = Scheduling!

- It is a software pipelining problem
  - A modulo schedule of lifetimes
- Contributions
  - Framework
  - A simple algorithm
  - Near-optimal results