McStas McXtrace

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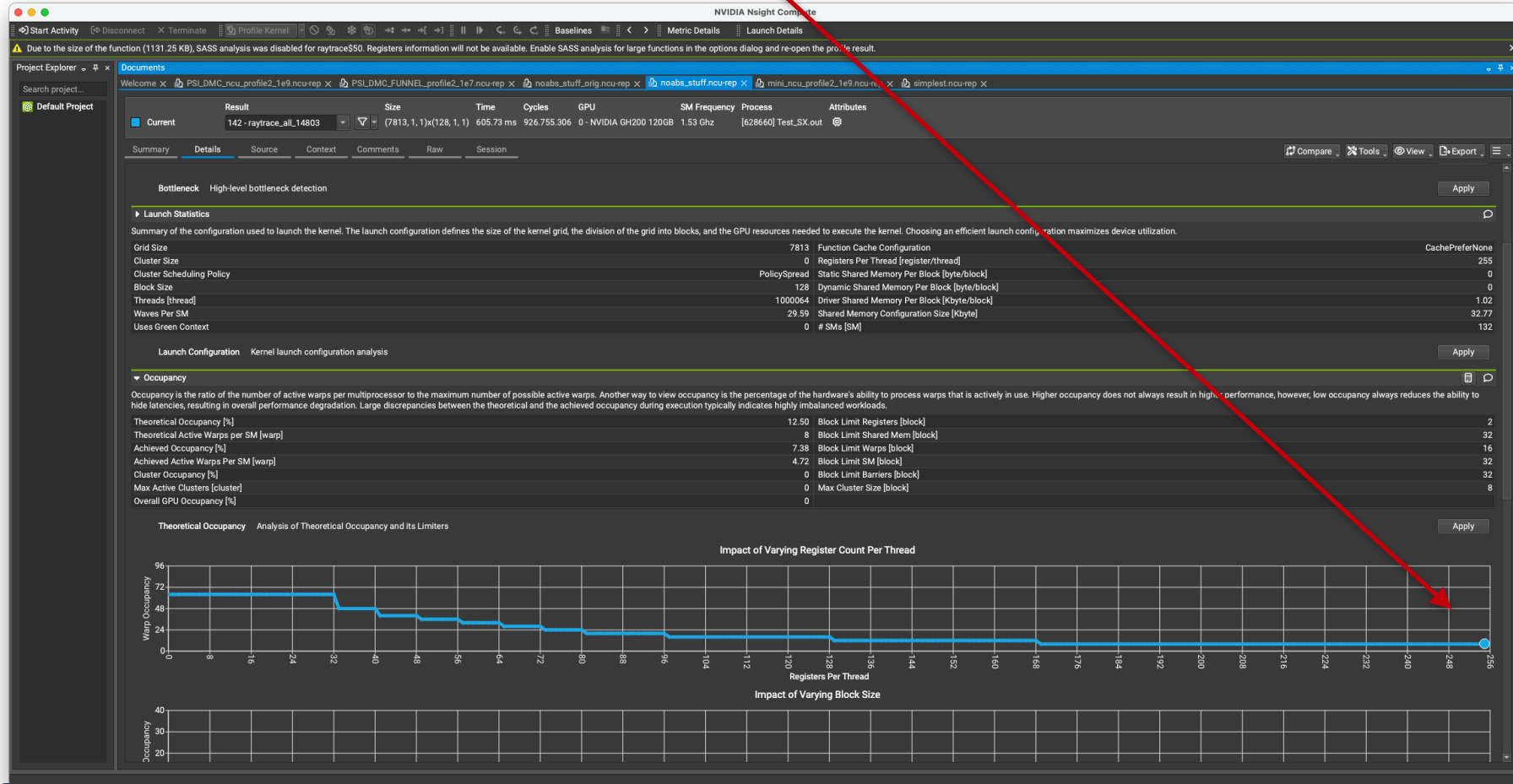Jan-Oliver Mirus
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OpenACC
More Science, Less Programming

OPEN HACKATHONS

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Profiler Output

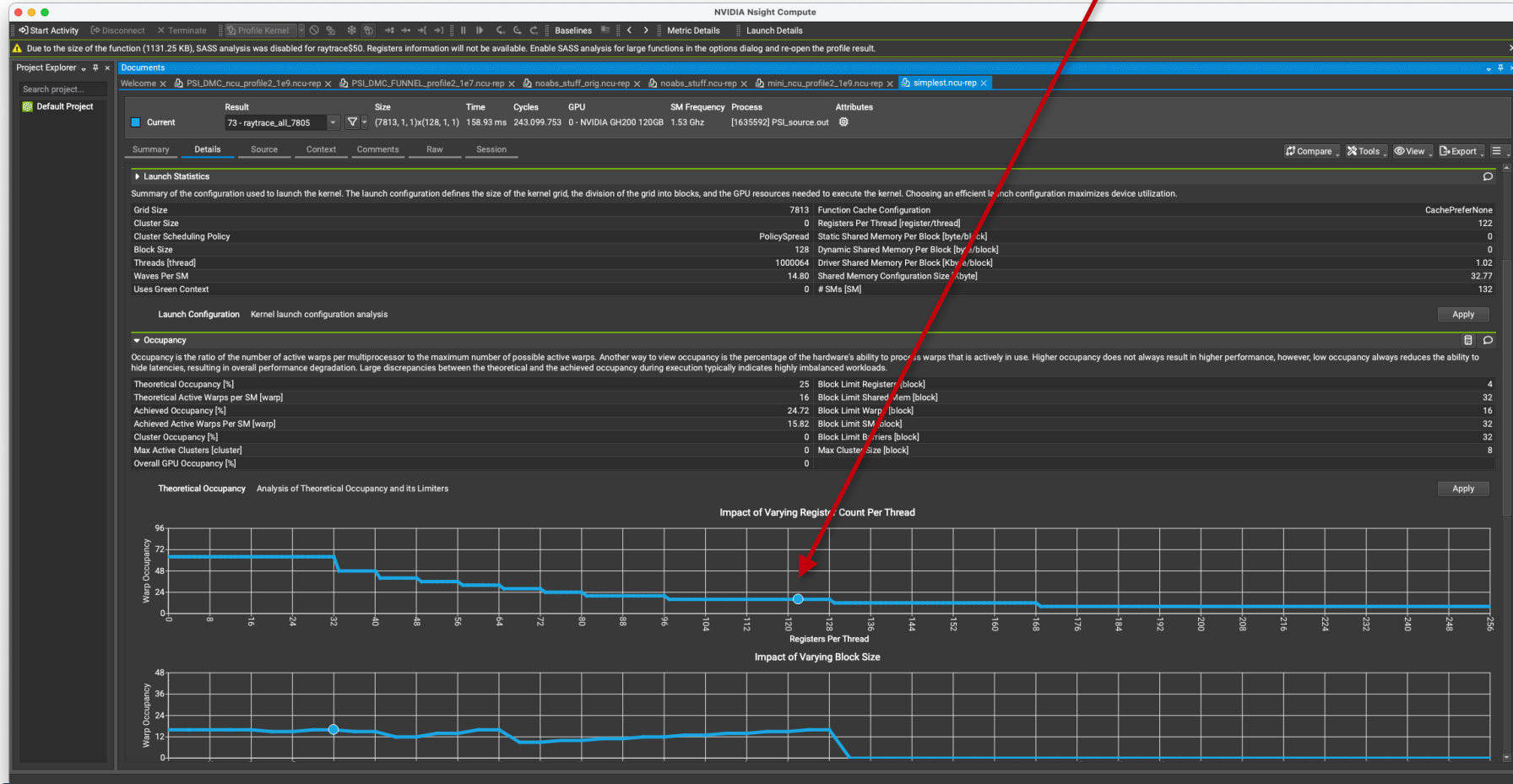## We are likely blocked by our "arrays of struct"

- Too many registers required pr. thread

Profiler Output

We are likely blocked by our "arrays of struct"

- Even the 'simplest of all cases' is not great in this respect

Progress and Goals

- Tobias identified and corrected a thread race condition in a specific instrument / component

- Emmanuel tried chatbot hints for potential missing #pragma's in key component codes… "Not so easy" ;-)

- Goals for today:
  - More profiling
  - Experiments with 'struct with arrays' approach
  - Limit device-host-device transfers (only some data need to be loaded back to host)
  - Take a look at alternative FUNNEL sorting algorithm (something readily provided in CUDA?)

Problems and Solutions

- Refactoring to try out a new overall code structure is challenging

    - Hack local c-file is error prone vs. lots of work needed to 'fully integrate'

    - Limit device-host-device transfers
      (only some data need to be loaded back to host)