SOLARNET & Piz Daint

Piz Daint is a Cray HPC system located at CSCS in Lugano, consisting of XC50: *5704 hybrid nodes* of 12 cores with Nvidia Tesla accelerators and 64GB RAM, and XC40: *1813 multicore nodes* of 2 x 18 cores with 64/128 GB RAM. Intel Xeon E5 CPUs.

SOLARNET provides privileged access to Piz Daint. In total *1.5 million node hours*, worth of € 368'900 are foreseen to be used for SOLARNET.

Oskar Steiner

Cycles 1-3

Cycle 1: Jan.–Dec. 2020. *Two projects* which got 360'000 nh.

- *"The physics of the solar chromosphere – confronting models with observations"*, PI Sanja Danilovic, Inst. Solar Physics, Stockholm Univ.; used 184'067 nh;

- *"Magneto-Convection in Realistic Sunspots with MURaM"*, PI Markus Schmassmann, Leibniz Inst. Solar Physics, Freiburg; used 96'803 nh.

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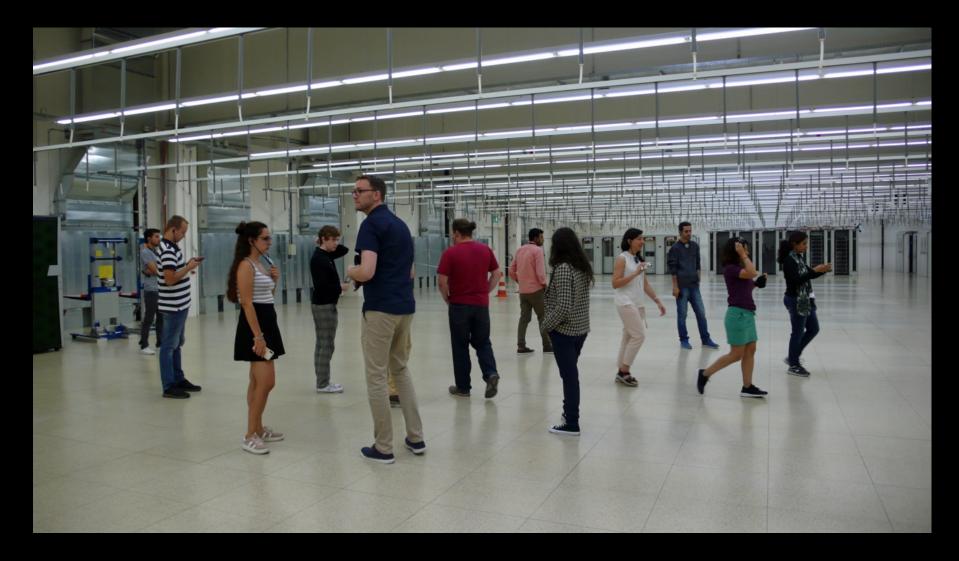
Cycle 2: Jan.–Dec. 2021. *Three projects* which got 673'000 nh.

- *"Confronting models with observations in the solar chromosphere"*, PI Sanja Danilovic, Inst. Solar Physics, Stockholm Univ.; used 192'719 up to Sept. 30;

- *"3D simulation of solar and stellar magneto-convection including partial ionization effects"*, PI Elena Khomenko, IAC, Tenerife; used 104'175 up to Sept. 30.

- *"Simulating the polarization of spectral lines in 3D models of the solar atmosphere"*, PI Javier Trujillo Bueno, IAC, Tenerife; used 76'000 up to Sept. 30.

Until the end of 2021 we expect in total to have used 790'000 nh.

Cycles 1-3

Cycle 3: Jan.–Dec. 2022. *Two proposals* have been submitted until Oct. 5, 2021. They have been scientifically evaluated and are *now technically evaluated*. The process is not yet concluded. It is expected to be decided on before Christmas.

We anticipate 350'000 nh to be assigned for this third cycle.

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Cycle 4: If SOLARNET is extended, and if CSCS agrees, we had about 360'000 nh left over for a fourth cycle.

Lots of empty space in the computer hall of CSCS for the next generation (hybrid) system "Alps". Visitors of the 1st SOLARNET school with Matthias Kraushaar (in front) who manages SOLARNET at CSCS.

Some more statistics

Preproposals, proposals, and accepted projects

cycle	year	preproposals	proposals	projects
2	2021	7	4	3
3	2022	5	2	

Assigned and used node hours

cycle	year	received [nh]	used [nh]	efficiency %
1	2020	360'000	280'000	78
2	2021	673'000	520'000*	77

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