

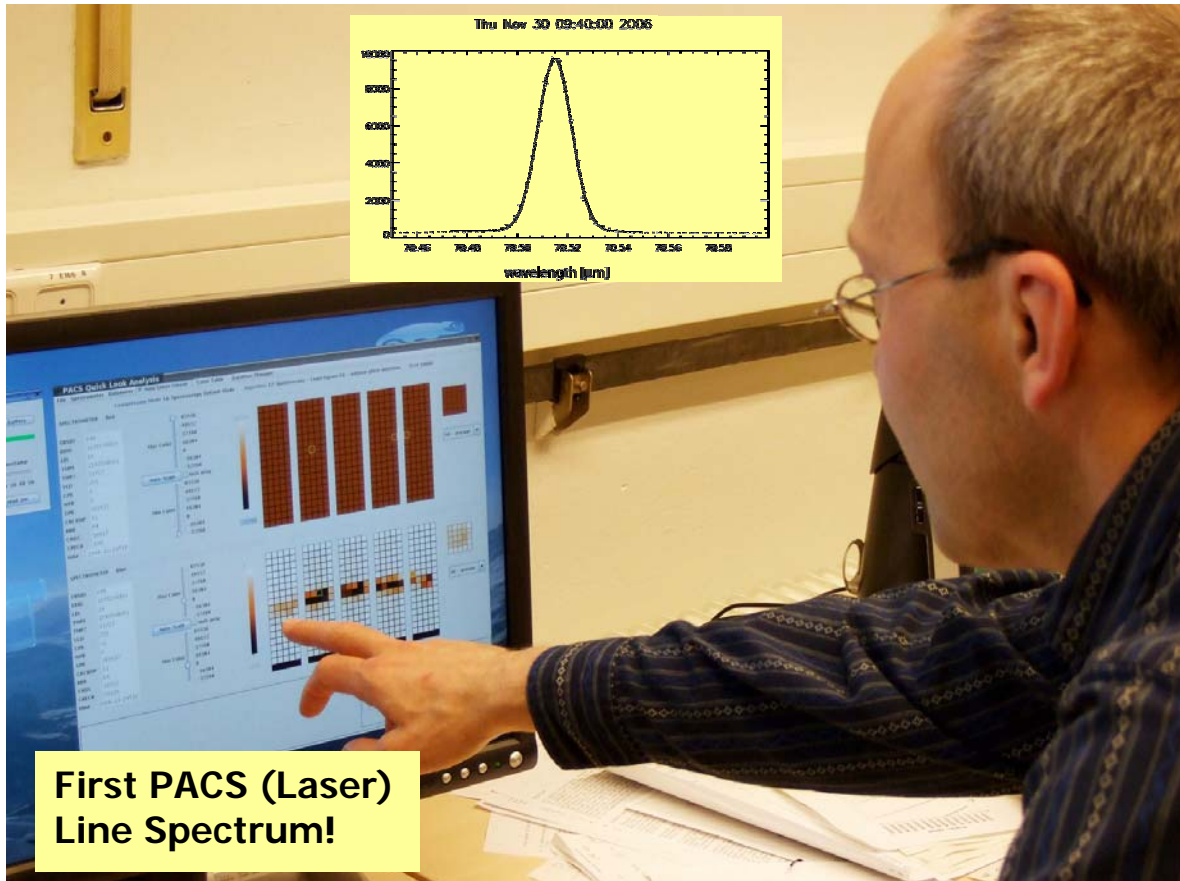


# PACS Newsletter

Nr. 12, 1 December 2006



## The PACS Picture of the Week



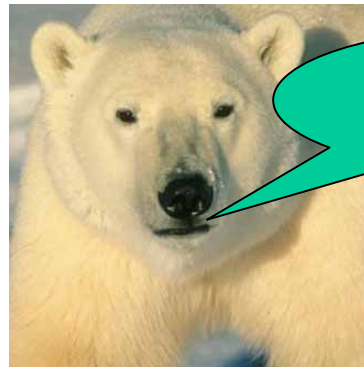
*Fig. 1: The first spectral lines were recorded with PACS this week using the LENS FIR Laser.*

## Status

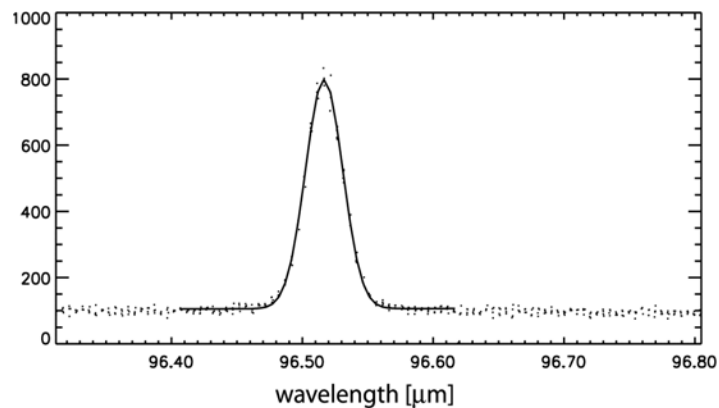
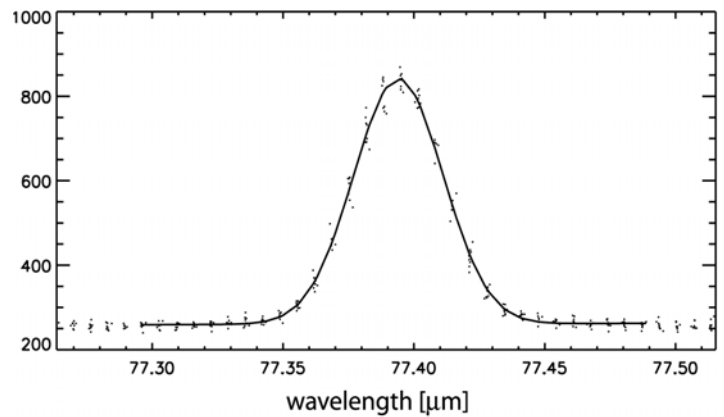
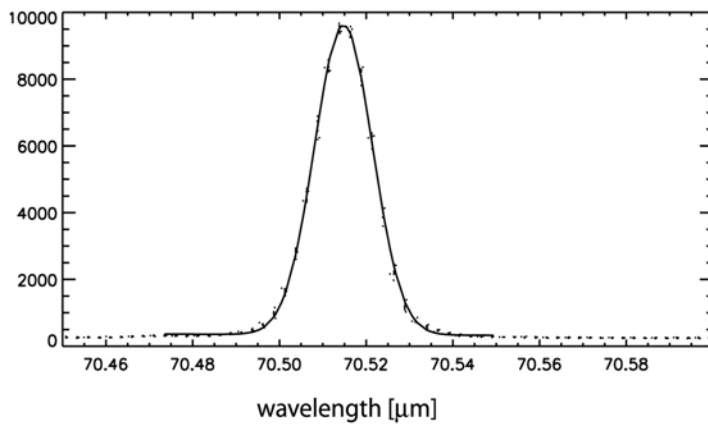
The main activity during the fifth week of the PACS FM ILT was dominated by spectral tests with the LENS FIR Laser. Setting up and operating the Laser with the help of the colleagues from LENS (the European Laboratory for Non-linear Spectroscopy, Florence) went remarkably well, and we obtained our first line spectra!

Among the other activities of this week were tests (and modifications) of PACS autonomy functions and further bolometer tests. Today we have started a long term test (~35 hours) to find the optimum bolometer bias setting. This test is also a real test of the autonomous operation of PACS.

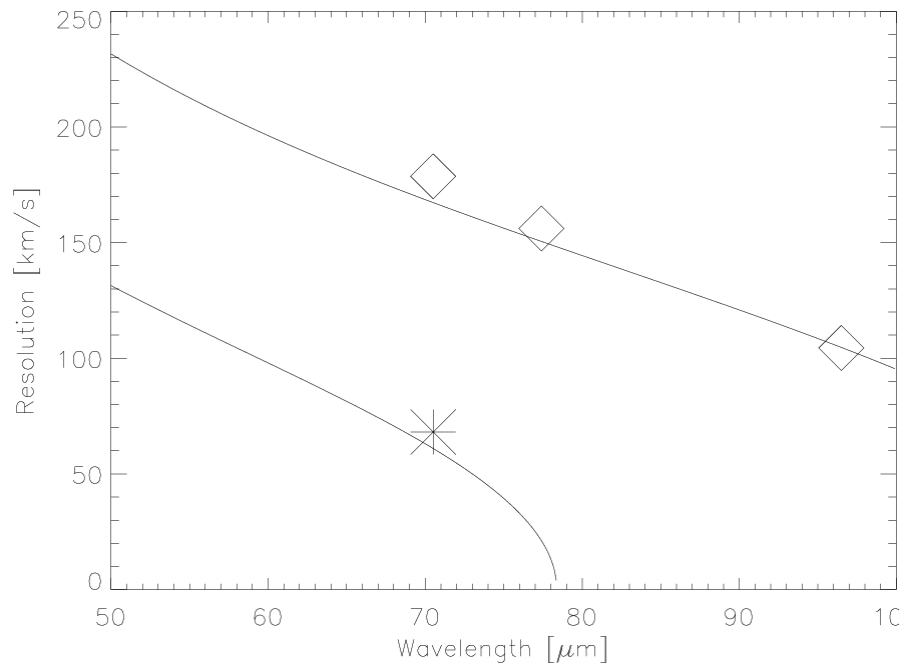
Unfortunately, we have to report two anomalies which we have identified in our tests and which require a modification of our test plan. Firstly, the chopper does not perform as specified. The kind of the chopper anomalies as well as an analysis of all available data so far would mean a non-conformance of the chopper. We are preparing more tests to further investigate the problem, but we might have to warm up the cryostat over Christmas (as planned anyway for the DECMEC exchange), to open up PACS (which was unplanned so far), and to exchange the chopper (with the original FM chopper unit). Secondly, the illumination of the (blue) spectrometer FOV is not homogenous: every fifth column as well as the first and the last detector block (five columns each) seem to see less signal (compare the spectrometer first light picture in Newsletter No. 11), leading to a U-shaped pattern in the FOV. We need to analyse this further (e.g. in point source mapping tests), but it could mean a misalignment of the slicer, and/or a vignetting in the light path.



Thu Nov 30 09:40:00 2006



*Fig. 2: three Laser lines as measured with PACS during this week. From a preliminary data analysis it can be concluded that spectral line profiles and resolutions are as predicted/designed (see also Fig. 3).*



*Fig. 3: measured resolution (symbols) versus calculated resolution (full lines) in second and third order of the blue array*

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