



# FRM II news - special issue -

## Back to work on October 29<sup>th</sup>, 2011!

After the first long maintenance break, lasting 373 days in total, the neutron source Heinz Maier-Leibnitz is back to work again and available for external users.

This long period was filled with many, many tasks which were worked through:

- ✓ A new thimble for the production of molybdenum-99 was constructed and inserted.
- ✓ The entire beam tube for the positron source NEPOMUC was exchanged. As new "positron fuel", an enriched <sup>113</sup>Cd-absorber is used and a new extraction system was designed. Unfortunately the thermal management did not work as foreseen which delays the restart of the positron source to 2012.
- ✓ Several neutron guides at beam tube SR1 feeding the neutron guide hall west were rebuilt to sustain the radiation damage of our high neutron flux even better.
- ✓ The two heat exchangers between the second and third cooling circuit were replaced by larger ones to create additional capacities for the ultra cold neutron source and the production of molybdenum-99.
- ✓ POLI, the polarized hot neutron diffractometer, will become an independent new instrument. Therefore modifications of the inserts of SR9 had to be done.
- ✓ ANTARES, the radiography and tomography facility, moved from beam port SR4b to SR4a in order to make room for a neutron guide towards the new neutron guide hall east feeding the new facility for particle physics MEPHISTO. Therefore, it had to be completely rebuilt leading to new experimental possibilities.

Further improvements cover the upgrade of TOFTOF, the ongoing commissioning of SANS-1 and improvements on nearly all other instruments. Details will be given in our next *FRM II News* by the end of December. Finally all research teams operating instruments at the FRM II are very happy to see neutrons again. They are looking forward to carrying out a lot of experiments and to receiving many proposals before the next deadline.

Do you want more information? Just have a look at the actual [Call for Proposals](#) on the User Office's web pages and feel free to contact either the instrument scientists or the User Office!

Dear colleagues and friends!

A long and painful period without neutrons finally came to a good end. The restart of our facility after a long maintenance break has been achieved on October 29<sup>th</sup>, 2011. All well prepared work took much longer time than expected. Minor technical problems had coincided with the disaster in Japan in spring this year. A tremendous amount of work had to be done as a follow-up to the damage of the Fukushima nuclear installations. Even though the FRM II has been constructed and approved to be save in case of earthquakes and air plane crashes a lot of paper work had to be done by our reactor department. Thanks to their tireless work our goal to serve the neutron community with high neutron flux and powerful instruments can resume on full power for the rest of this year. Due to the prolonged failure of operation we have skipped the proposal round in autumn 2011 and come back to our regular schedule with deadlines in January and July every year.

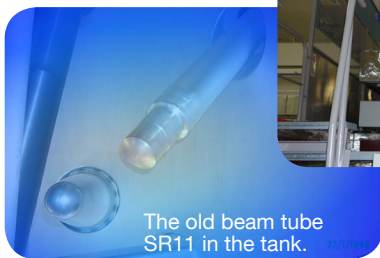
Looking forward to seeing you back in Garching soon!

Jürgen Neuhaus

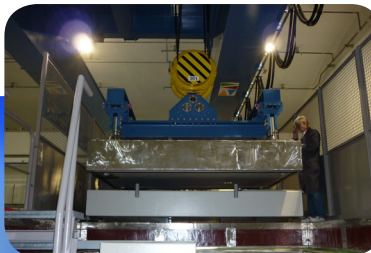
# A picture is worth a thousand words



New heat exchanger.



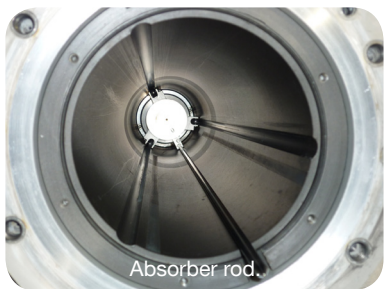
The old beam tube SR11 in the tank.



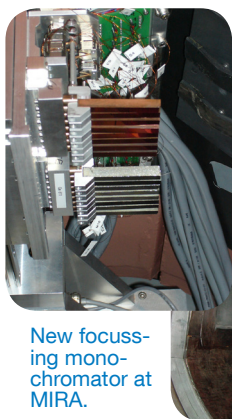
Test for cutting up beam tube SR11.



The safety flaps and their inspection.



Absorber rod.



RESI: Assembled new monochromators inside the shielding.



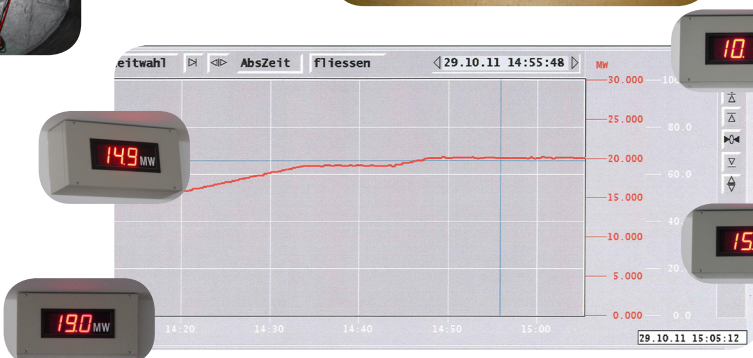
Working at the fitting.



Students of the JCMS LabCourse - working without neutrons....



BioDiff: Instrument scientists Andreas Ostermann and Tobias Schrader are waiting for the first users.



The reactor reached 20MW on October 29<sup>th</sup>, 2011, 14:47.



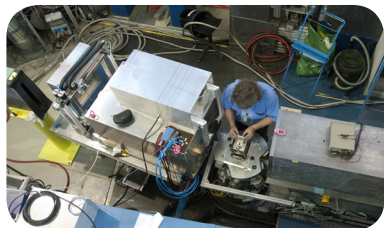
Martin Fliether of the reactor staff is also waiting for the start.



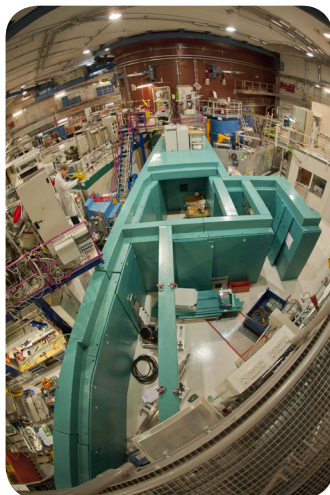
KWS-2: High intensity small angle scattering diffractometer is now available!



MARIA: The magnetic reflectometer with high incident angle and instrument scientist Stefan Mattauch are ready to start:



PGAA: Instrument scientists Zsolt Revay and Stefan Söllradl prepare everything for the new experiments.



ANTARES: The new green shielding.

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**New deadline for proposals:  
January 27<sup>th</sup>, 2012**



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