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## FSC status

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on behalf of the IHEP PANDA group

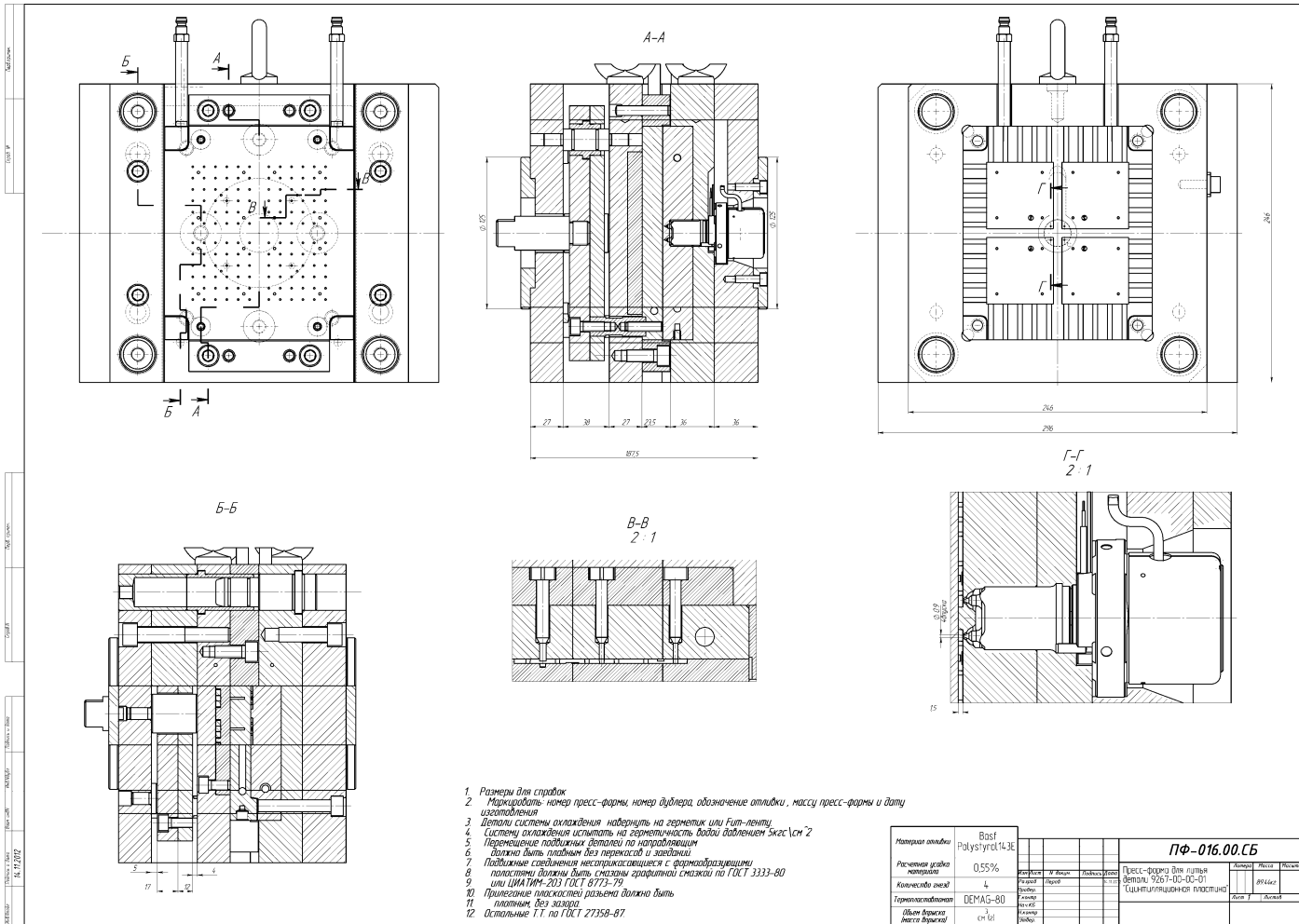
PANDA Collaboration Meeting, Goa  
11-15 March 2012

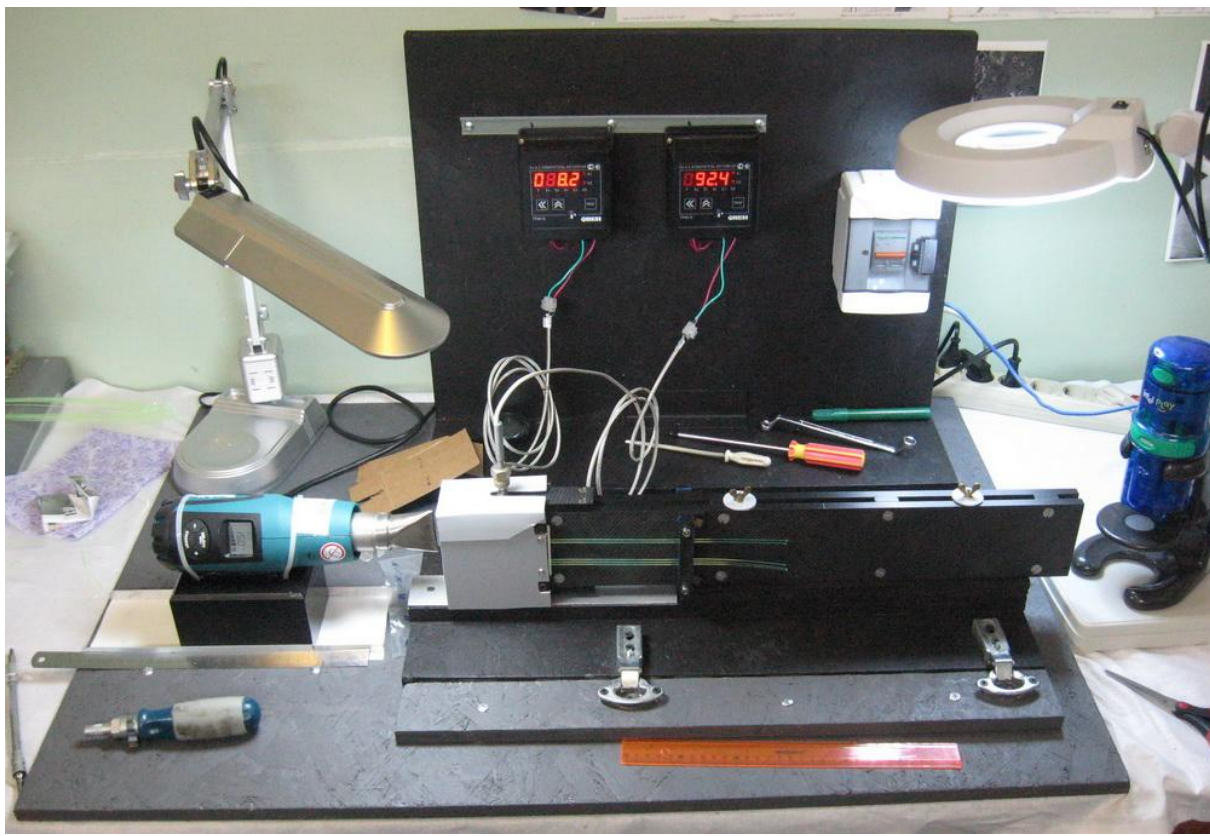
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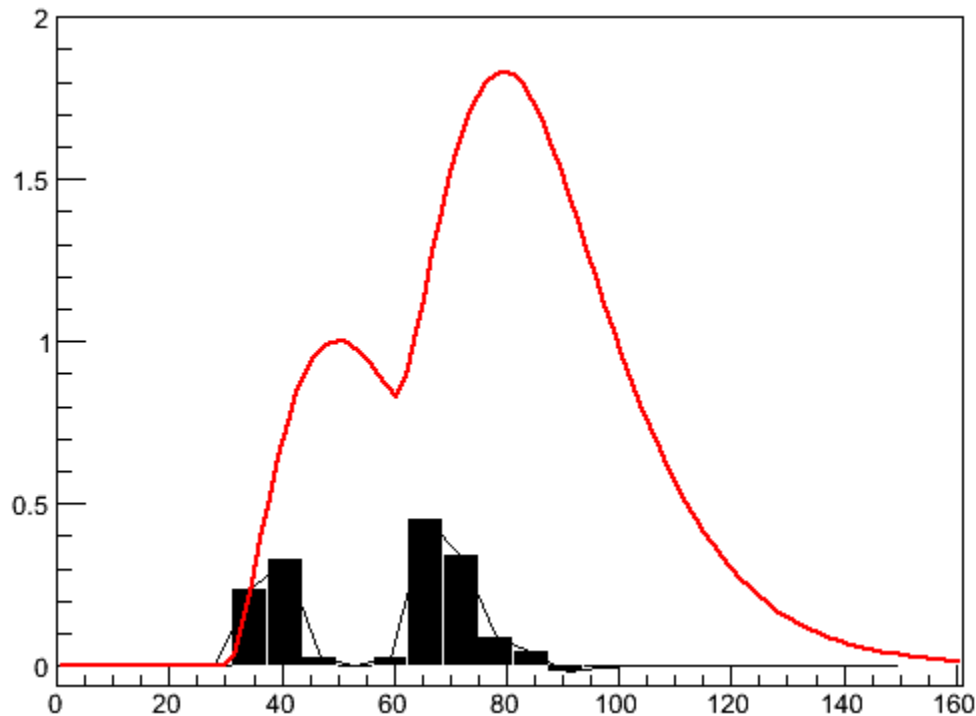
- FSC prototype
- FSC digital filter (pile-up recovery) studies
- FSC slow control development
- Possible preassembly in Julich

- The first version of the mold was ready by the end of January, but after some tests the manufacturer decided to rebuild one part
- New mold should be assembled and checked in 2 weeks
- New die to produce lead plates – also in 2 weeks
- Modified HV base (type B) is developed and tested – non-linearity of a few percent with 100 mA output
- All the materials to produce 4-5 modules of FSC (lead, polystyrene and dopants, Y11 optical fiber) are available
- The plan to produce prototype modules in April-May.





- FSC signal is shorter in comparison with target EMC EC
- Deconvolution algorithm is different
- First simulation showed the possibility of pile-up recovery within a range of up to 30 ns



Simulated overlapped signals from FSC and simulation results of digital pile-up recovery

- First version based on uC STM32F2xx is ready
- Functionality includes HV control (Cocroft-Walton type bases) and 1-wire protocol to read temperature sensors
- Iterface: Modbus on RS485, CAN bus available, but currently not implemented
- **Compatibility with slow control system developed in Bohum should be discussed**

- Prototype after tests at Mainz (may be used in 2014, first half of 2015)
- Full readout chain including PMT and HV base, cable and ADC