

Sub-PSP code	Work Package	Next Milestone	Achievements	Current Activity	Critical Items	Schedule Status
1.4.1.02.1.1	Cluster target generator (A. Khoukaz, WWU Münster)	Long-duration measurements; systematic target optimisation; test of highest target thickness and vacuum situation	Full vertical setup and operation with scattering chamber and final beam dump	Tests with different nozzles. Target beam adjustment and beam optimisation studies.	From 07/2015: No funding by BMBF/Germany for invest	on time
1.4.1.02.1.2	Roots Pumping system (A. Khoukaz, WWU Münster)	Installation of a new control panel	Fully in operation	routine operation	From 07/2015: No funding by BMBF/Germany	on time
1.4.1.02.1.3	Electronic rack for cluster generator (A. Khoukaz, WWU Münster)		Installation of main components			on time
1.4.1.02.1.4	Communication line between cluster target components (A. Khoukaz, WWU Münster)		Full direct and remote control of target devices	Update of PLC routines		on time
1.4.1.02.1.5	Test of the cluster target at the internal COSY beam (A. Khoukaz, WWU Münster)	Installation at COSY	Work loads defined; Proposal for beam time at COSY accepted	Preparation for installation at WASA-at-COSY target place	From 07/2015: No funding by BMBF/Germany	on time
1.4.1.02.1.6	Slow control for local cluster target tests in Münster (A. Khoukaz, WWU Münster)	Full direct and remote/automatic control of target devices	Full access to all target devices	Slow control program developments		on time
1.4.1.02.2.1	Gas supply system (J. Zmeskal, SMI Vienna)		Cluster target in operation with a test gas supply system	Design of the final PANDA gas supply system	Funding by Austria	on time
1.4.1.02.3.1	Slow control system (B. Zwieglinski, NCBJ Warsaw)	Signing tripartite In-Kind Contract FAIR-NCBJ-UJ Krakow for the Slow control system	Draft of the In-Kind Contract in an advanced stage	Work on the Contract draft to convert it into an accepted document by both FAIR and UJ-Krakow administrations		on time
1.4.1.02.4.1	Beam dump (A. Khoukaz, WWU Münster)	Adaption to PANDA: design studies on vacuum chamber + frame modification; installation of monitoring devices	First version of cluster beam dump available	Tests with cluster beam at Münster	One turbo pump broken (no spare device). From 07/2015: No funding by BMBF/Germany	on time

Risk item	Probability	Damage	Description	Impact	Mitigation measures	Remarks
Vacuum Situation at the PANDA Interaction Point	possible (po) <20%	moderate (mo)	Residual gas at the PANDA interaction point, originating from both the target sources as well as from the target beam dump due to back streaming, must be reduced as much as possible. A too high gas ackground can introduce antiproton beam losses and background events.	Residual gas at the IP reduces the antiproton beam lifetime and gives parasitic interactions with the accelerator beam increasing the experimental background.	Test of the beam dump at the PANDA cluster target generator. Improvement of the pumping speed and/or reduction of orifice diameters.Introduction of additional pumping stages.	