

Report on Gun-4.3 conditioning at PITZ in 2013

Topics and responsible persons
(Status 25.07.2013)

Deadline: (1st iteration) 15.08.2013 – to be send to MK

Topic	Content	Responsible	Remark
RF conditioning	<ul style="list-style-type: none"> • RF power (peak and average) history • Power histograms (compare to other cavities) • Trip rate history • IL history (bits + calculated signals) • Vacuum history (incl. Cath.IGP4) • Behavior of gun temperatures 	Igl	
Dark current	<ul style="list-style-type: none"> • History of DC@6MWx200us (+DCM1 history) • DC versus peak power • DC images at LOW.Scr1 • DC measurement method (peak-to-peak versus amplitude) 	MK	
E-beam momentum	<ul style="list-style-type: none"> • Max momentum versus peak power • Phase scans at diff. peak power levels (2D plot?) • Momentum distributions (typical and 2D?) • OMA cross-check with MAMA • LPS tomography (with booster) 	MO DM	
E-beam transverse phase space	<ul style="list-style-type: none"> • Measured emittance • TPS tomography studies • Fin structure investigations 	GK JDG	
Cathodes	<ul style="list-style-type: none"> • History of insertions • Images of cathodes • QE and QE map of cathode#149.1 • “Self-rotation” effect? 	MK	
RF system	<ul style="list-style-type: none"> • 10MW directional coupler measurement problem • Temperature gradient around RF window • Images of directional coupler and Thales RF window 	RF group(+Igl)	
Photocathode laser	<ul style="list-style-type: none"> • Temporal satellites: streak and Schottky scans 	MG, TR	
General	<ul style="list-style-type: none"> • Peak RF power, gradient at the cathode and expected emittance 	MK	