18/01/2013 - R. Garoby

LIU TDR - Draft outline

(The Linac4 Design Report will be a separate volume attached to this publication)

		Title	Key words	Author	Pages
Part 1: Protons	**1.1**	**Introduction**	Injector complex and its operation, achieved performance and new goals, importance of brightness and low emittance, summary of action plan, structure of document	R. Garoby	2
	1.2	**Beam requirements and production schemes**	Beam characteristics requested by HL-LHC, Present and future baseline production scheme.		
	1.3	**PSB**		K. Hanke	
	1.3.1	Upgrade path	Motivation and summary of the planned actions		
	1.3.2	Beam dyn. + coll. effects	Issues, actions and expected performance	E. Benedetto	
	1.3.3	H- injection @160 MeV	Injection scheme (paintings) and hardware description (specs and design)		
	1.3.4	RF system	Hardware description (specs and design)		
	1.3.5	Beam transfer	Beam optics and hardware description (specs and design)		
	1.3.6	Power converter	Hardware description (specs and design)		
	1.3.7	Beam Instrumentation	PSB specific		
	…	…			
	1.4	**PS**		S. Gilardoni	
	1.4.1	Upgrade path	Motivation and summary of the planned actions		
	1.4.2	Beam dyn. + coll. effects	Issues, actions and expected performance		
	1.4.3	Injection @ 2 GeV	Injection scheme and hardware description (specs and design)		
	1.4.4	RF system + long. fdbk	Hardware description (specs and design)		
	1.4.5	Beam Instrumentation	PS specific		
	…	…			
	1.5	**SPS**		B. Goddard	
	1.5.1	Upgrade path	Motivation and summary of the planned actions		

	1.5.2	Long. beam dynamics	Issues, actions and expected performance	E. Shaposhnikova	
	1.5.3	Xverse beam dynamics	Issues, actions (Tune, etc.) and expected performance		
	1.5.4	RF systems	Hardware description (specs and design)		
	1.5.5	Xverse feedback	Issues, actions and expected performance		
	1.5.5	e clouds	Issues, actions (coating, fast fdbk…) and expected performance		
	1.5.6	Beam scraping		M. Meddahi	
	1.5.7	Beam dumping			
	1.5.8	Transfer lines to LHC			
	1.5.9	Beam Instrumentation	SPS specific		
	…	…			
	1.6	**Beam Instrumentation**	**(Common devices)**		
	1.6.1	Beam profile and emittance measurement			
	1.6.2	Beam loss monitors			
	…	…			

		Title	Key words	Author	Pages
Part 2: Lead Ions	**2.1**	**Introduction**	Injector complex and its operation, achieved performance and new goals, summary of action plan, structure of document	R. Garoby	2
	2.2	**Beam requirements and production schemes**	Beam characteristics requested by HL-LHC, Present and future baseline production scheme.	D. Manglunki	
	2.3	**Linac3**		D. Manglunki?	
	2.3.1	Upgrade path	Motivation and summary of the planned actions		
	2.3.2	Beam dynamics	Issues, actions and expected performance		
	2.3.3	Ion source	Issues, actions and expected performance		
	2.3.4	Linac3	Issues, actions and expected performance		
		…	…		
	2.4	**LEIR**		D. Manglunki?	
	2.3.1	Upgrade path	Motivation and summary of the planned actions		
	2.3.2	Beam dynamics	Issues, actions and expected performance		
	…	…			
	2.4	**PS**		S. Gilardoni	
	2.4.1	Beam dyn. + coll. effects	Issues, actions and expected performance		
	…	…			
	2.5	**SPS**		B. Goddard	
	2.5.1	Upgrade path	Motivation and summary of the planned actions		
	2.5.2	Long. beam dynamics	Issues, actions and expected performance	E. Shaposhnikova	
	2.53	Injection with 50 ns rise time	Injection scheme and hardware description (specs and design)		
	2.5.3	Xverse beam dynamics	Issues, actions (Tune, etc.) and expected performance		
	…	**…**			