

ANAR 2017 Workshop

WG2

Plasma Wakefield Accelerator Driven by a Particle Beam

WG2 Coordinators:

Allen Caldwell (MPP), Edda Gschwendtner (CERN), Mark Hogan (SLAC)

Charge questions to WG2 participants

1. What are the key parameters/elements necessary for the scheme?
2. What parameters have been reached, which ones will be reached in the next 5-10years, which ones are desirable or necessary and without current solution.
3. What key experiments need to be performed and in what priority?
4. Which existing or new facilities are needed to perform key experiments?
5. Which issues are technological (i.e., can assume they can be solved) or fundamental (i.e., cannot be solved by technology)?
6. What key technologies (e.g., high power drive beams) are needed for the concept and what is their likely time scale for development?
7. What simulation tools are needed: full PIC 3D, 2D, reduced model (quasi-static), fluid, hybrid, etc.?
8. What are realistic time scales for the above?

WG2 Tentative Agenda

Day	Talk + Discussion Time	Time	Topic	Speaker
Tuesday	20+40	14:30	Define Classes of applications and physics requirements (Energy, luminosity, particle species etc)	M. Wing
	15+15	15:30	State of the art for e- & e+ PWFA	S. Gessner
		16:00	Break	
	15+30	16:30	State of the art and plans for plasma sources	P. Muggli
	15+30	17:15	Challenges and requirements for plasma diagnostics	M. Downer
		18:00	Adjourn	

WG2 Tentative Agenda

Wed	15+30	9:00	Computational tools for e- & e+ driver plasmas	W. Mori (Skype?)
	15+30	9:45	Computational tools for p driven plasmas	K. Lotov
		10:30	Break	
	10+20	10:45	Driver technology - production of short p bunches	A. Petrenko
	15+30	11:15	State of the art and plans for p PWFA	E. Adli
	10+20	12:00	PWFA with sub-TeV proton drivers	K. Lotov
		12:30	Lunch	
		14:00	What facilities are available or planned for this research	All
	15+15	14:30	Key e-/e+ experiments/elements that need to be done/demonstrated (intro with US Roadmap)	M. Hogan
	15+15	15:00	Key experiments to be performed/elements to be demonstrated for p-driven	A. Caldwell
		16:00	Break	
			Other topics:	
			Synergies with other techniques (LWFA, DWA, DLA...)	
			Driver technology - production of short e- bunches	?
		18:00	Adjourn	