第32回・LC計画推進委員会

日時： 2015年10月15日, 13:00 ~ 15:30 ＞＞ **次回: 2016. 1/7 or 8 （提案）**

場所： 3号館セミナーホール

アジェンダ：

＜一般報告・ディスカッション＞ 13:00 – 14:45

1. LC計画推進室からの報告 （山本明委員長）
2. 機構長からの報告 （山内機構長）
3. ILC戦略会議からの報告 （山下委員）
4. 文科省・ILCに関する有識者会議からの報告 （徳宿委員）
5. iCFA からの報告 （森・東大ICEPP教授）
6. 今後の取り組みについて・ディスカッション（全員）

休憩 (14:45 - 15:00)

＜技術報告＞ 15:00 – 15:30

超伝導高周波・国際会議(SRF-2015) からの報告 山本 明

― 欧州XFEL 計画・超伝導加速空洞システム建設の進展 ―

KEK-LC： FY2015 Plan

M	LC・Comm.	KEK-LC / Domestic	LCC / International
7	10: LC計画委	16 ILC Detector 月例会 18-21: ILC 夏の合宿（伊香保） 23: NRI 委託調査検討委	27-28: ILC-CFS-CR WS at CERN 30: CERN-KEK Committee
8		5-7: 加速器学会（敦賀） 31: KEK研究推進委(ILC)	17-22: LP Conf. at Ljubljana 18-19, LCB--ICFA Mtg in Slovenia
9		1-4: OHO-2015 at KEK **25-28: 物理学会（大阪市大・杉本C)** **26: 物理学会.ILC シンポジウム**	2-4: PosiPol Meeting at Daresbury 7-11: LFC15 at Trento (横谷） 14-18, SRF2015 at Vancouver
10	15: LC計画委	7: ILD Detector Int.WS in Paris	13-14: L. Evans in Japan
11			2-6: LCWS-2015 in Whistler
12			1-4: TTC at SLAC
1	15: LC計画委		
2			25-26: LCB-ICFA meeting at KEK
3			

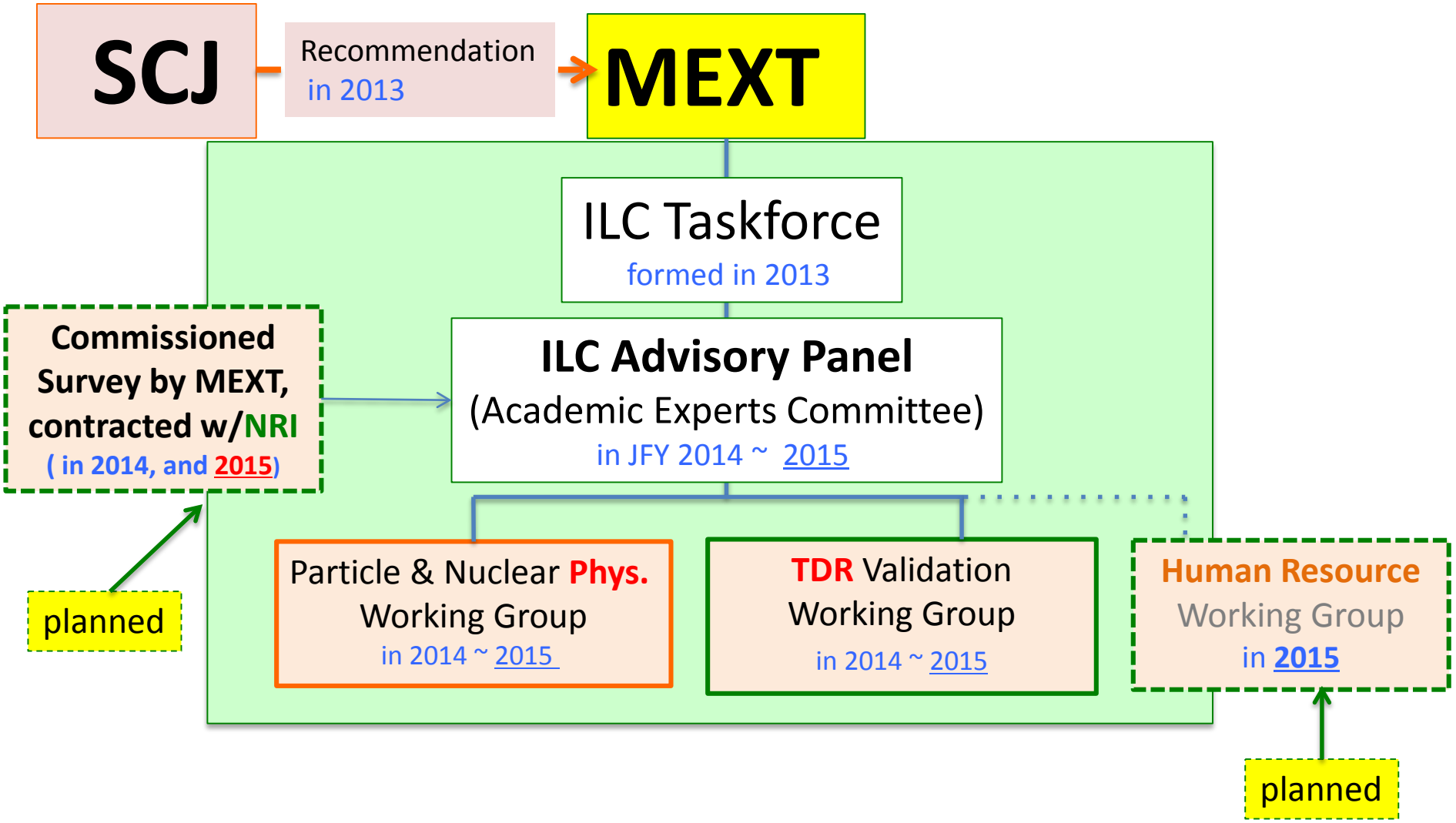
2015年ILC夏の合宿: 横谷

- 加速器科学者・高エネルギー物理学者等、異分野研究者間の情報共有と交流促進を目的としています
- 会場および日程
  - 日程:7月18日(土曜日)～7月21日(火曜日)、三泊四日
    7月18日午後より開始、7月21日昼頃終了の予定です。
  - 会場:群馬県伊香保温泉、ホテル天坊
    http://www.tenbo.com/
- 参加申し込み
  - 下記ホームページより登録してください。
    https://agenda.linearcollider.org/event/6772/
  - 締切　6月30日

- お問い合わせ
  - 倉田正和(東京大学素粒子物国際研究センター)
  - kurata@icepp.s.u-tokyo.ac.jp

多数のご参加をお待ちしております

ILC being studied in Japan



Plan for visiting European Laboratories and Industries

9/28: BN (SRF cryomodule assembly)
9/29: INFN-LASA, E-Zanon
9/30: CERN
10/1: DESY
10/2: RI (SRF cavity technology)
10/5: CEA-Saclay,
Alsyom, AL, APERAM (CM, Cryogenics, others)
10/6: LAL-Orsay,
Thales (RF technology)
10/7: STFC Daresbury Lab.
10/8: INFN-Frascati

人材確保・育成方策検証作業部会の設置について
文科省・ILC 有識者会: 2015-6-25

- 趣旨
  - ILC 計画に関する日本学術会議の所見、ILC 有識者会議において指摘された ILC の建設および運転に必要となる人材の確保・育成方策について検証し、留意すべき点について、専門的な見地から検討を行うため、「人材の確保。育成方策検証作業部会」を設置する。

- 検討事項
  1) 有識者会議における議論を踏まえた建設・運転・マネージメントの他、構成部品の製造に係わる各国の必要人員の確保・動員の見通し
  2) 建設・運転・マネージメントに係わる国内の研究者・技術者等の人員の確保・動員及び将来必要となる研究者・技術者の確保・育成の見通し
  3) 我が国のリーダ的人材の確保・育成に関する課題と留意点
  4) 国際機関の組織の在り方を踏まえたマネージメントを行う人材の登用の仕組みの検討における課題と留意点
  5) その他関連する事項

人材の確保・育成方策検証作業部会スケジュール（案）

- 第一回： ヒアリング （10~11月）
  - 論点整理
  - TDR, ILC 国際設計チームの人材見通しについて

- 第二回： ヒアリング （11~12月）
  - LHC 参加研究者から研究者・技術者確保事例と現状について、併せてLHCの研究状況について
  - 他の大型プロジェクトにおける運営組織、リーダ育成・確保について
- 第三回： ヒアリング （1~2月）
  - 民間企業における技術者の確保・育成んついて
  - KEK における加速器技術者の育成・確保について

- 第四回（2~3月）
  - 報告書まとめ

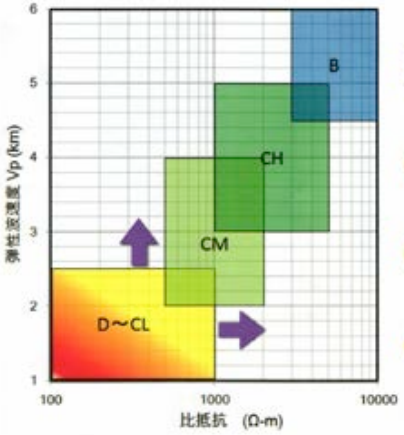
CFS Report
Geology Survey at IP area

- Geology survey on surface executed
  - Mechanical rigidity (sounding) survey :
    - good in all IP area
  - Electromagnetic (resistivity) survey:
    - < 1 km north from the old baseline : good but gradually changing
    - Further north : very good and stable/uniform

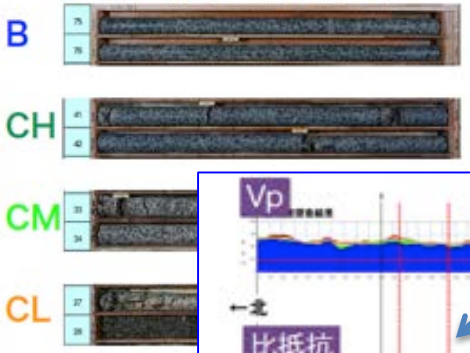
- Our (Japanese CFS team's) consideration
  - We may execute only one point survey, this year.
  - It may be wise to choose the most stable point to demonstrate "vertical access availability" in this region, and
  - Keep multiple candidate IP points, by when we may have "green sign# to go further.
    - Multiple survey will be inevitably required before the the IP point decision.

- Survey has to be executed within this year,
  - Our decision to execute the geological survey (boring?) at a norther point.

Vp/比抵抗 と 地質

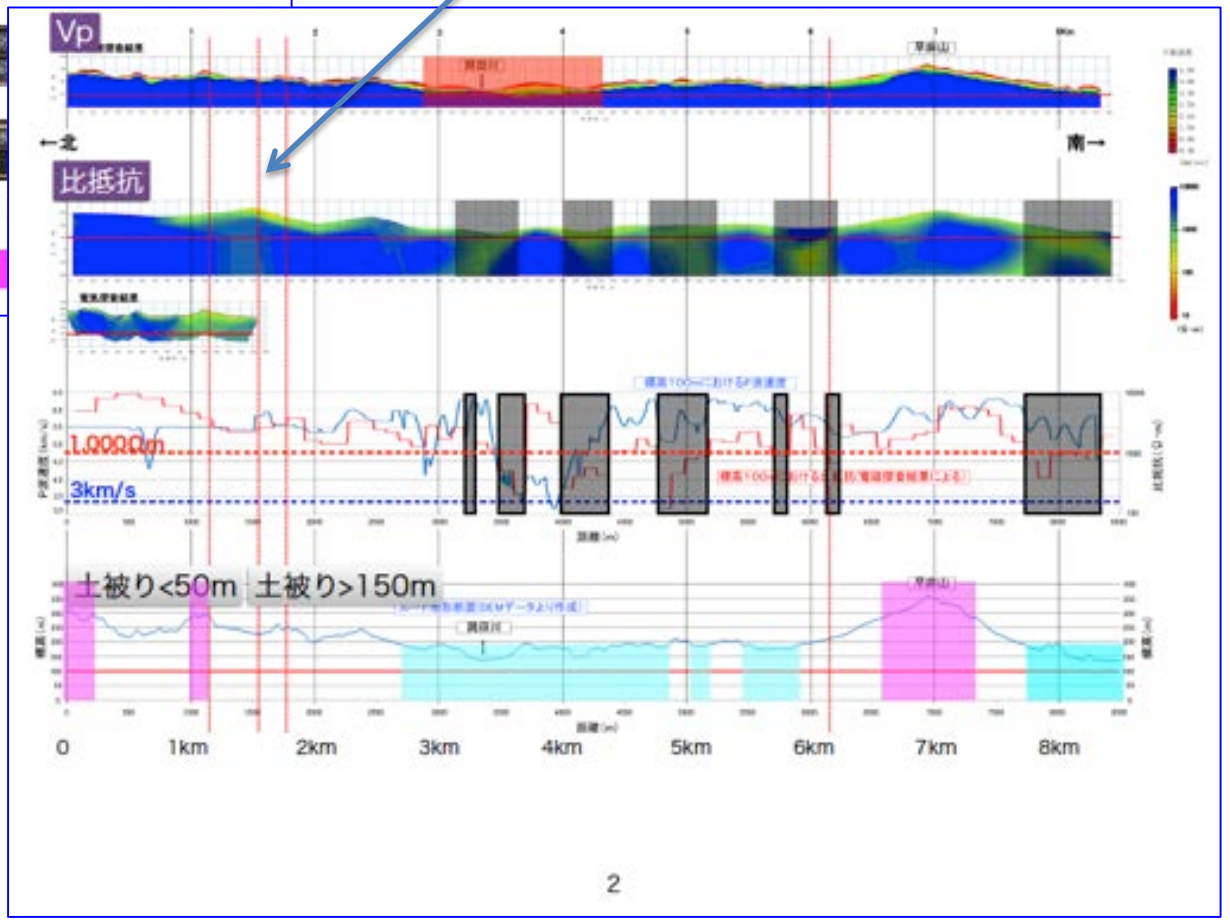


早麻山のボーリングコア



「CLよりも良い」→「比抵抗>1,000Ωm」

Bowring work starting, this week,
at a northern point.



LCWS2015

http://lcws15.triumf.ca

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Home

Welcome to the International Workshop on Future Linear Colliders

The 2015 International Workshop
The workshop will be held 02-06 N

The workshop will be devoted to th
taking into account the recent resu
for both ILC and CLIC projects.

We are looking forward to seeing y

Shane Koscielniak
Chair of the Local Organizing Com

出席予定者(Conveners, Speakers, Lectuerers), :
山内、岡田、
駒宮*、村山、山本(均)、山本(明)
*加速器:
早野、照沼、久保、奥木、仲井、佐波 (tbd)
横谷、佐伯(LC-Schoolと合わせ)
栗木、佐貫、岩下(tbd)
:LC推進室
宮原、岡村(素核研:Cryogenics全体)
*物理・測定器:
藤井、宮本、杉本、田内、大森、ヤン、ジュンピン、ティノ、小川
*広報:
高橋(理)、小林

LCWS15 Draft Agenda V6.0

	Mon 2/11	Tues 3/11	Wed 4/11	Thurs 5/11	Fri 6/11
8.30 -> 10.15	Opening Plenary	Parallel sessions Accelerator: BDS, MDI, Sources, CFS, beam-dynamics Physics/Detectors parallel sessions	Accelerator plenary: Energy efficiency Physics/Detectors: ILD Collaboration meeting SiD collaboration meeting CLIC with theory	Parallel sessions Accelerator: BDS, MDI, Sources, CFS, beam-dynamics CLICdp Session Physics/Detectors parallel sessions	Summaries Accelerator Working Groups
10.15 -> 10.45	Break				
10.45 -> 12.30	Opening Plenary	Parallel sessions Accelerator: BDS, MDI, Sources, CFS, beam-dynamics Physics/Detectors parallel sessions	Accelerator plenary: Nano-beams (ATF etc…) Physics/Detectors: ILD Collaboration meeting SiD collaboration meeting CLIC with theory	Parallel sessions Accelerator: BDS, MDI, Sources, CFS, beam-dynamics Joint ILD/SiD session on experimental studies at ILC	Summaries Physics/Detectors Working Groups Workshop Closing Talk
12.30 -> 13.30	Lunch				
13.30 -> 15.30	Opening Plenary	ILC accelerator plenary CLIC acc. project meeting Physics/Detectors parallel sessions	Accelerator: LC Future directions (joint with LC school) Physics/Detectors parallel sessions	This session is 2.5 hours 13:30 to 16:00 ILC accelerator plenary Physics/Detectors parallel sessions	SiD Collaboration Meeting ILD Collaboration Meeting
15.30 - > 16.00	Break Workshop Photo			16:00-16:30	
16.00 -> 18.00	Accelerator plenary Physics/Detectors Plenary	ILC accelerator plenary CLIC common project meeting Physics/Detectors: joint session ILD/ SiD/CLICdp on simulation tools and reconstruction algorithms	Joint Plenary LC Future directions (with LC school) Physics/Detectors parallel sessions LCC Physics and Detectors Advisory Panel	Starts at 16:30 Plenary: Panel Discussion	SiD Collaboration Meeting ILD Collaboration Meeting

Some Key Sessions:

Plenary, Monday 8:30 to 10:15

- Welcome from local organizers - Shane Koscielniak
- Welcome from TRIUMF – Jonathan Bagger
- LCB report and news – Sachio Komamiya
- LCC report and news – Lyn Evans
- Message from KEK - Masa Yamauchi
- ILC acc. - recent news & goals for LCWS 2015 – Akira Yamamoto

Acc. Plenary, Tuesday 13:30 to 15:30

ML Tunnel Center-wall Thickness

From M. Harrison (Director for ILC Accelerator):

- … We would like to devote one of these plenary sessions (Tuesday, Nov 3, 13.30->15.30) to the somewhat complex issue of the generic **ML tunnel cross-section** with no beam-on access requirements.
- … I would like to ask this group to organize the plenary session with a goal of establishing consensus on the necessary contents of a **Change Request**. …

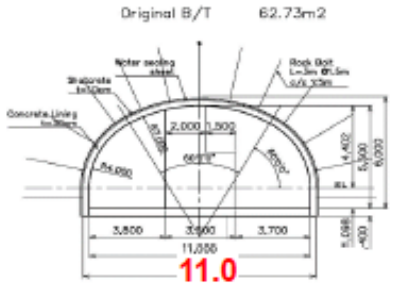
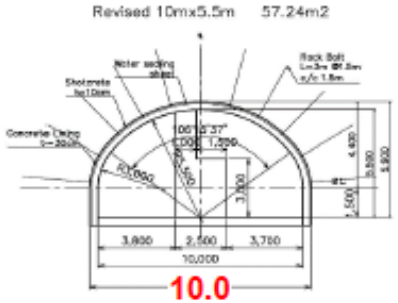
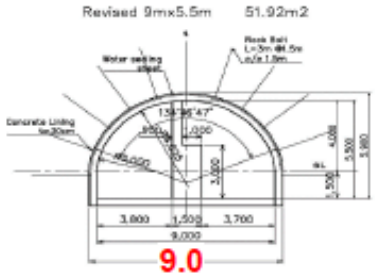
From E. Paterson: A proposal for the Accelerator Pleanary Tuesday

- Intro to question of tunnel cross-section --- Vic Kuchler
- **Dark Current Simulations** and Worst Case Scenarios --- Nikolay Solyak
- Thickness of Shield wall to **protect personnel from dark current**, including access between tunnels and cable and RF penetrations ---Toshiya Sanami
- Impact of 'no beam on access' on **availability** & energy overhead Ewan Paterson
- Options for ML tunnel cross-sections that satisfy **CFS requirements** including installation and life safety --- Vic Kuchler (and Masanobu Miyahara)

- **Discussions of the above**, related issues and **Draft Proposal for Change Request**

Change Request: TBD

ML Center-wall Thickness optimization

	Baseline SW3.5m	Option-1 SW2.5m	Option-2 SW1.5m
Cross Section			
Cross Section	W11m x H5.5m 62.7 m2	W10m x H5.5m 57.2 m2	W9m x H5.5m 51.9 m2

Dark Current Studies in ILC Main Linac (update)

N.Solyak, A.Sukhanov, I.Tropin, Y.Eidelman

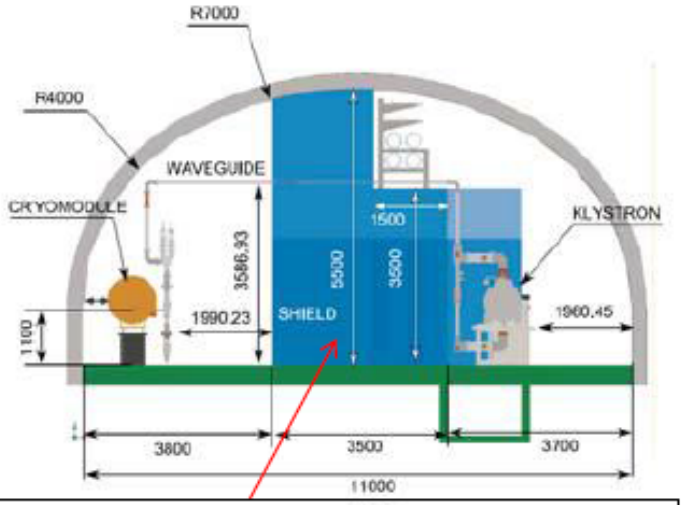
FNAL, Sept.10, 2015

Motivation

- Halo particle and Dark current electrons in ML produce radiation, which affect:
  - Beamline components and cables inside of CM
  - electronics outside of CM in ML tunnel
  - personnel and electronics in service tunnel

- Extensive studies needed to investigate halo & dark current radiation.
  - Reduce thickness and cost of the radiation shield
  - Radiation doses for ML components

Cross section of Kamaboko tunnel

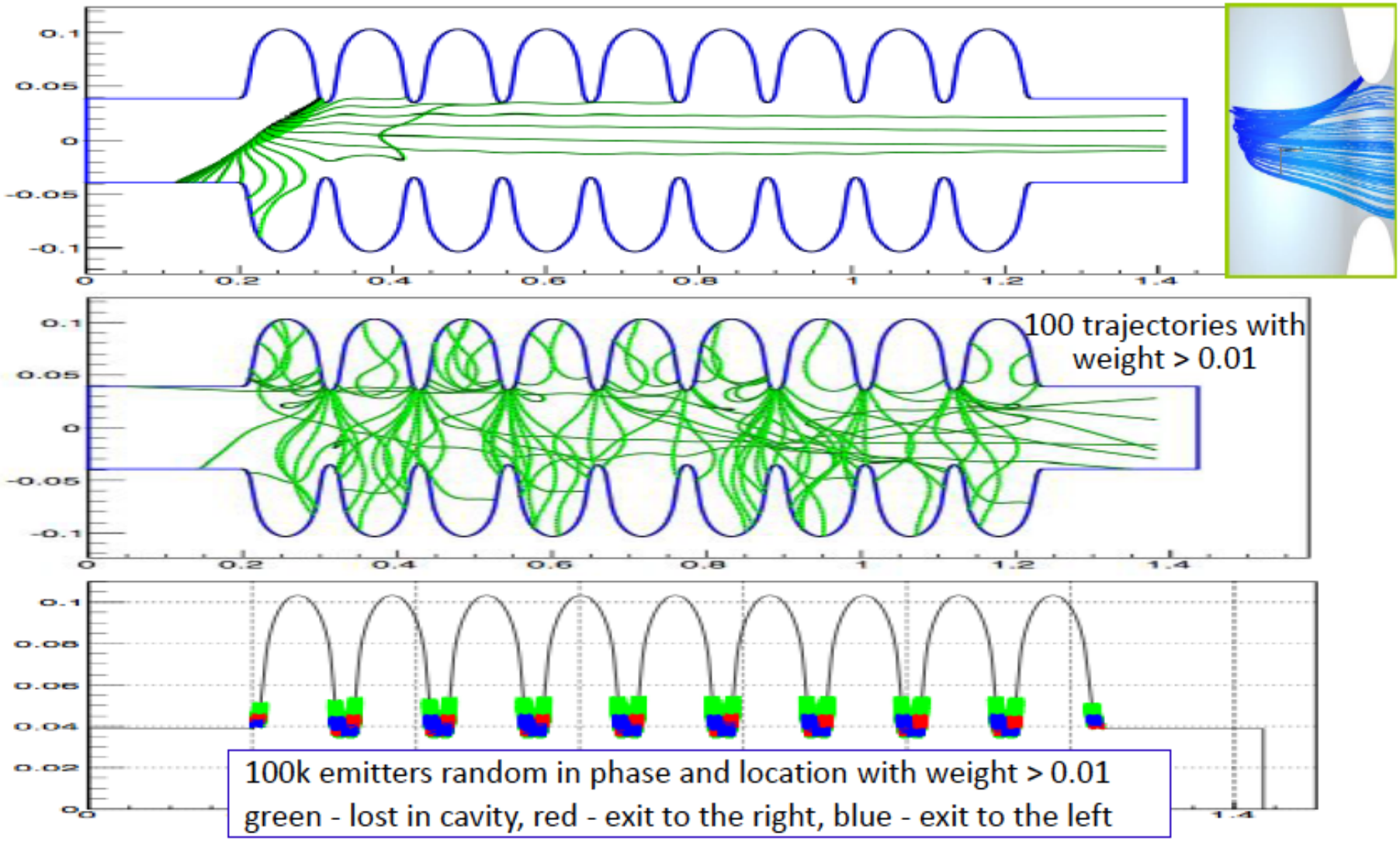


Thickness of wall (1.5-3.5m) separating service and operational facility is determined by max beam losses in tunnel

Recent studies of dark current:

- TESLA. V.Balandin et.al, TESLA report,2003
- Solyak et. al.,Dark current midell for ILC ML, EPAC2008,
- T.Sanami, KEK, ALCW2014 Belgrad,.
- LCLS-II, M.Santana, DOE review Dec.2014
- JLAB 12GeV upgrade

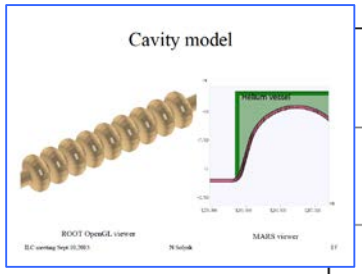
Particle tracking in cavity (SLANS-2D)

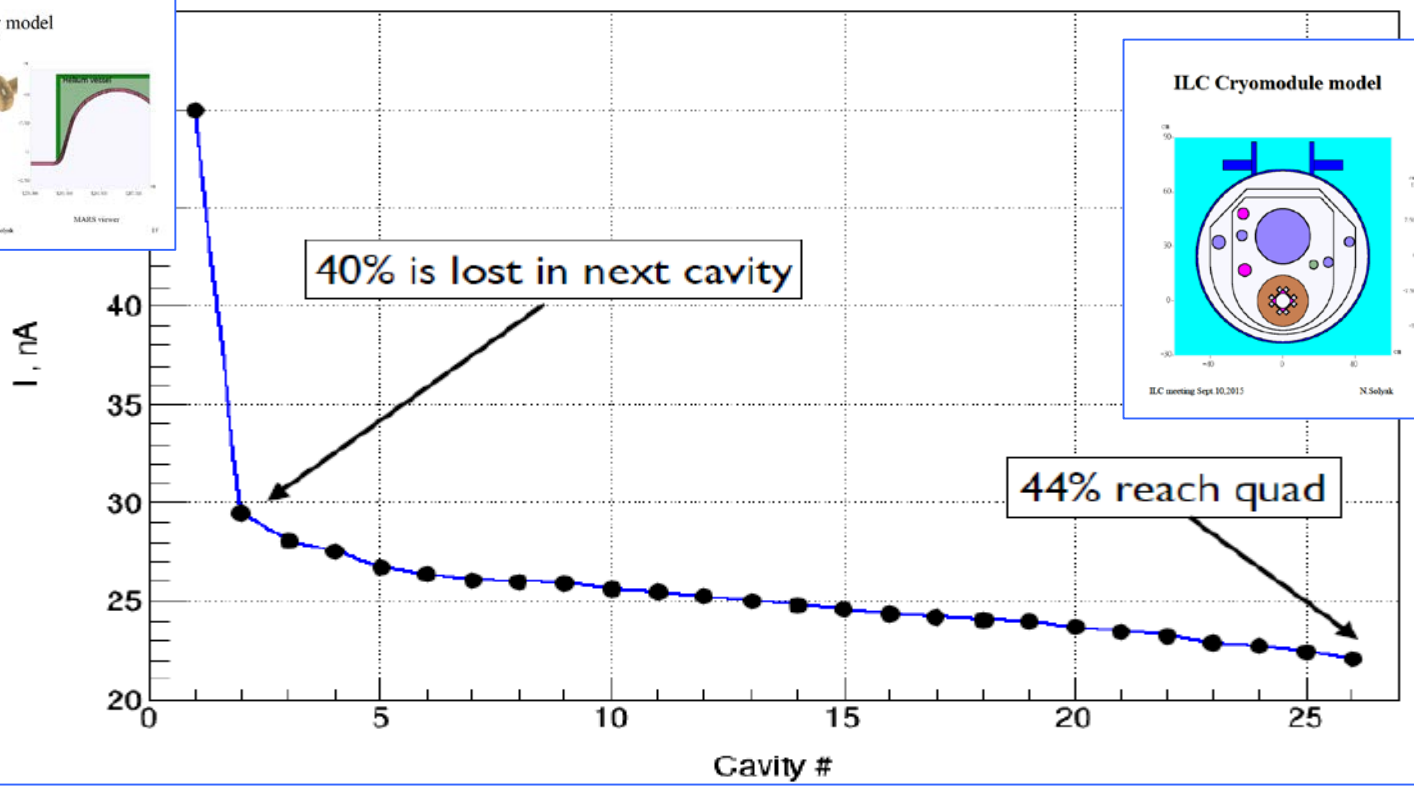


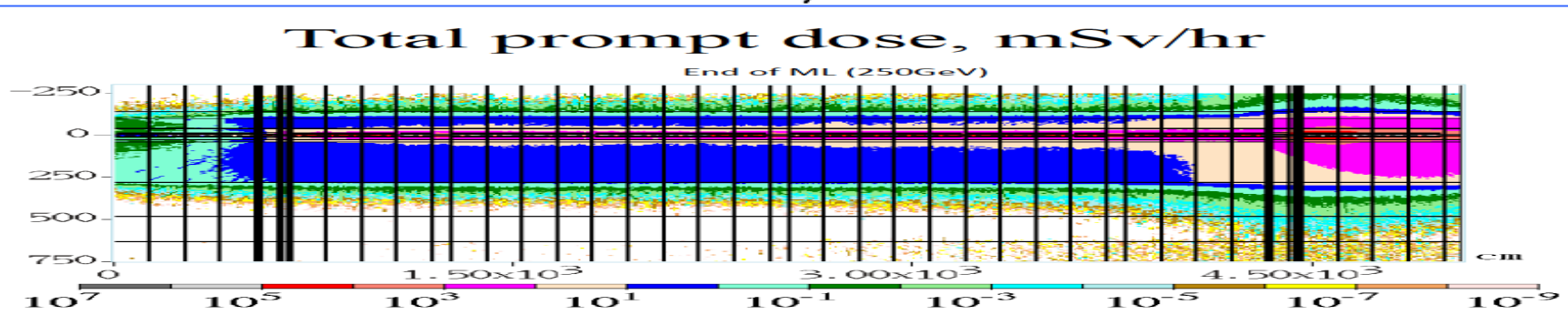
Reject particles with weigh <1% and energy < 0.5 MeV (parameters)

DC from Single Cavity

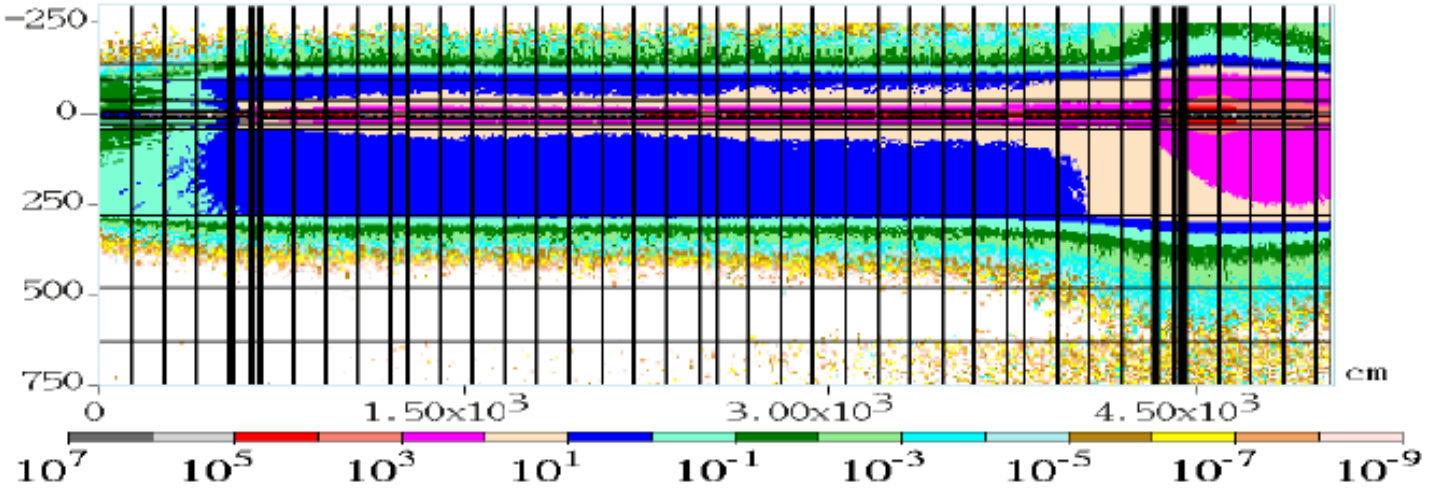
- Distribution of peak DC from single cavity along the string of 26 cavities



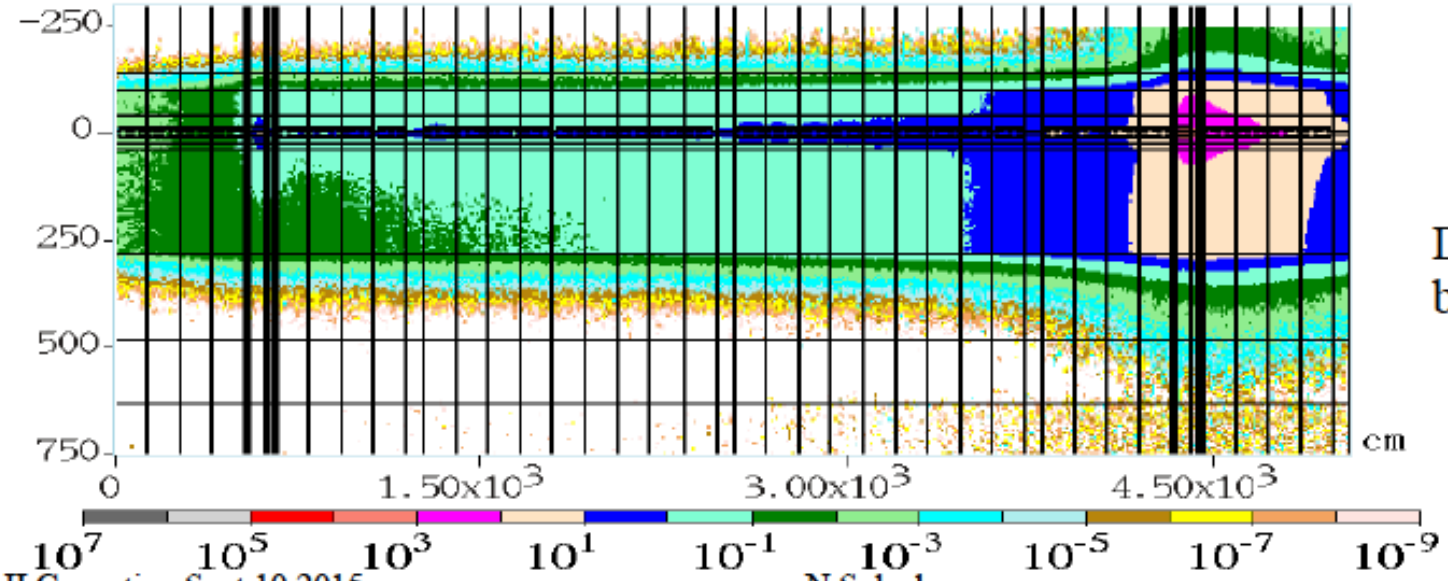




Total dose and dose induced by neutrons mSv/hr

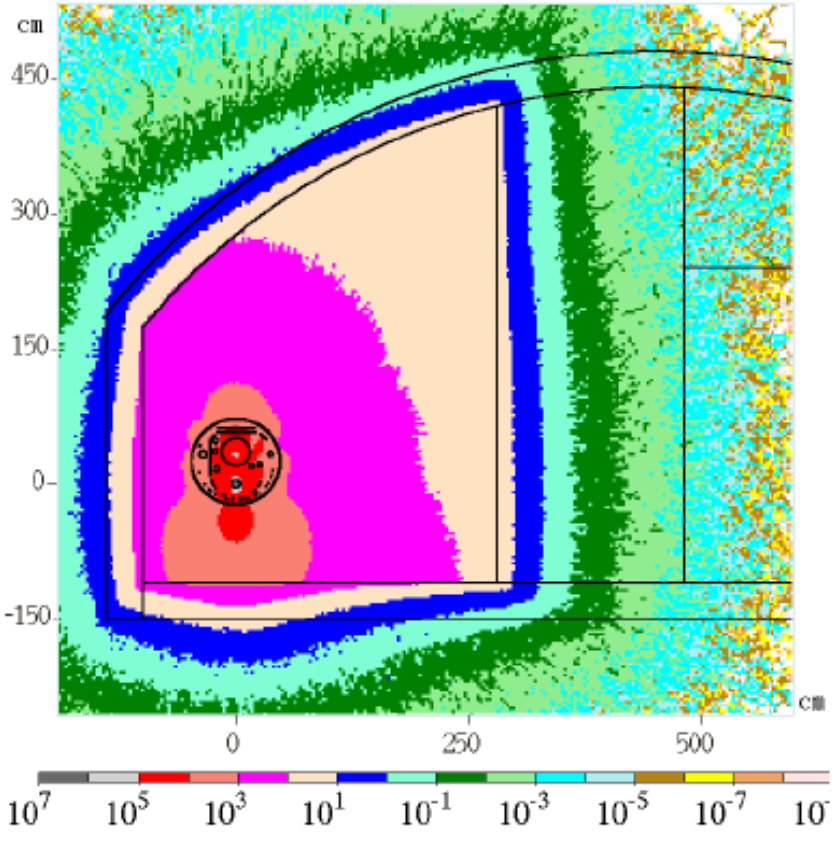


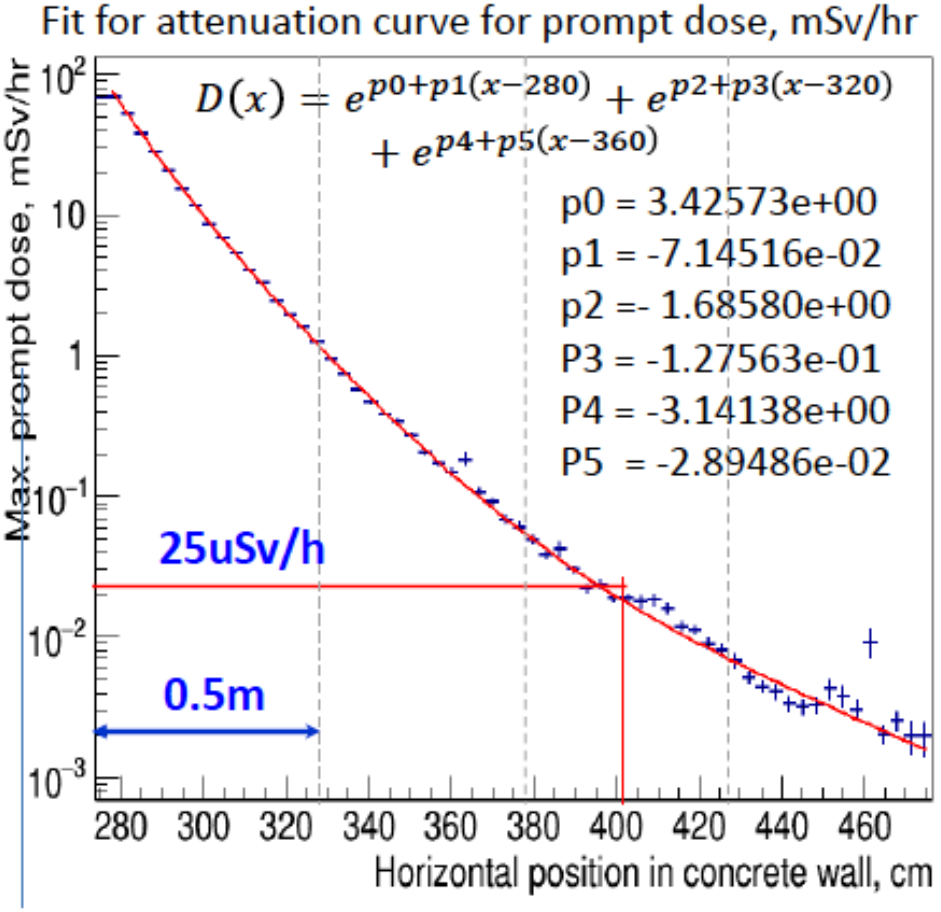
Total dose



Dose induceg by neutrons

Concrete wall thickness





Acc. Plenary, Tuesday 16:00 – 18:00

Accommodating e+ sources in BDS tunnerl

From M. Harrison to M. Kuriki:

- … at the last workshop in Tsukuba that you were hoping to prepare a proposal for tunnel modifications **to accommodate a "conventional positron source" in addition to the baseline undulator one".**
- I would like to proceed with this topic and in preparation for a formal change request.
- I would like to dedicate a plenary session, (Tuesday, 16.00 -> 18.00) to this item.
- Since this work has been proceeding under your supervision then you are the obvious person to organize this session. I hope you can cover what is needed to support a change request so the rest of us become familiar with the source requirements.
- I trust you have made sufficient progress since our last discussion that you will be well placed to do this by the time of the next workshop.

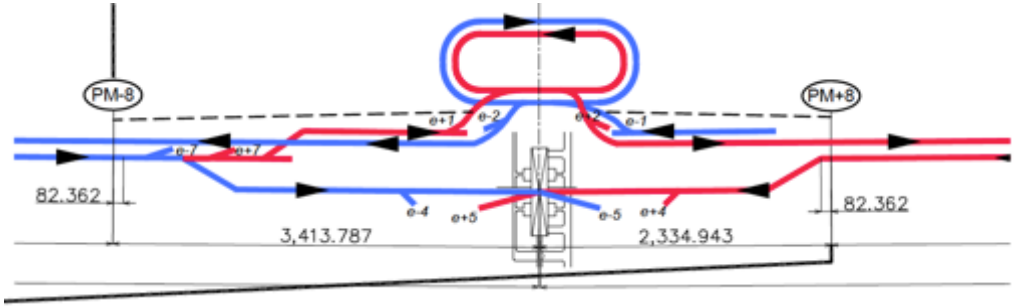
From M. Kuriki:

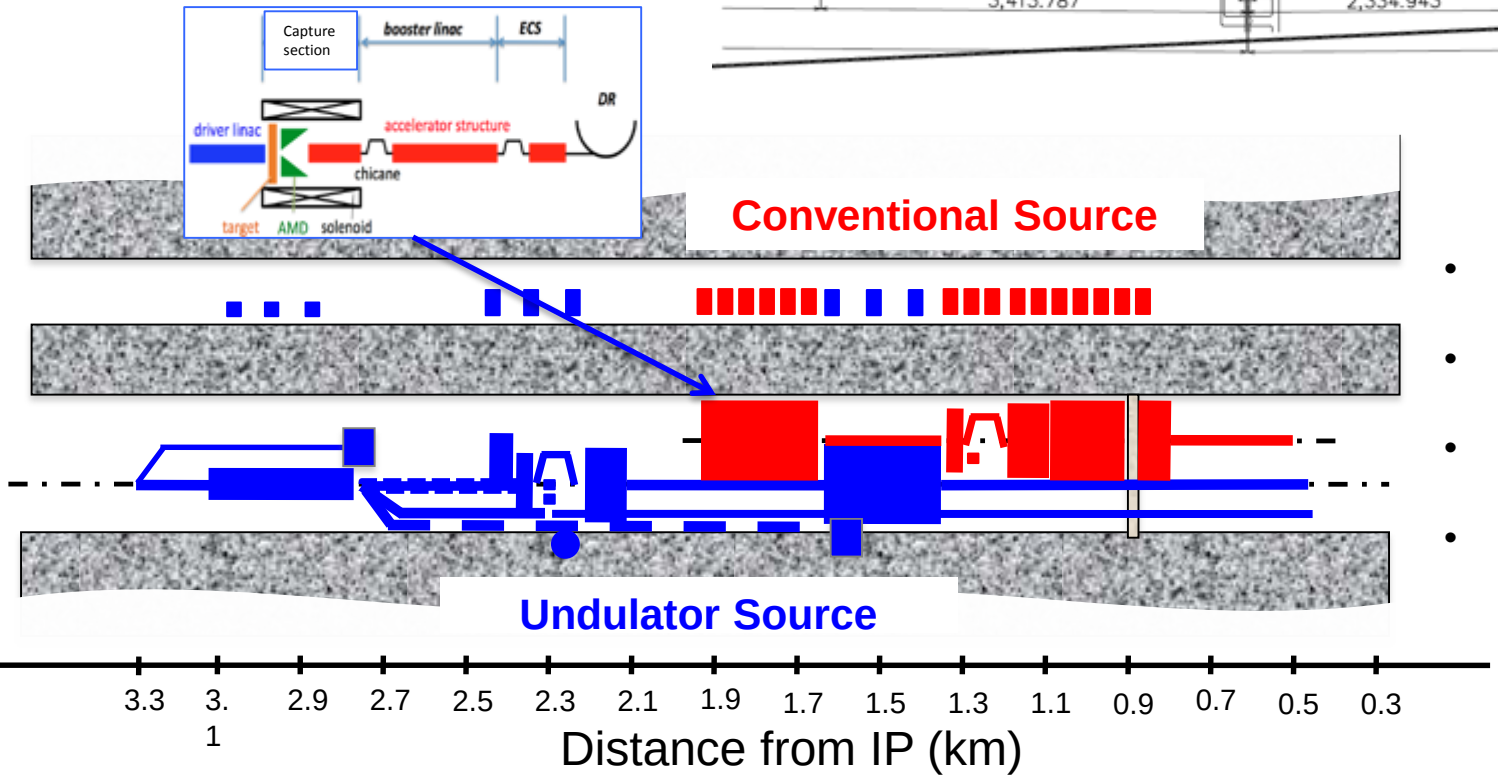
- Your proposal having the plenary session dedicated to the tunnel layout change configuration is excellent. We are **making the progress on the issue and we will have good discussion in Canada.**

Change Request: TBD

BDS Tunnel to accommodate e+ Sources

- It is still best to use the baseline scheme, but must prepare for the case starting with the conventional scheme
  - A tunnel that can accommodate both sources being designed





- Top: service tunnel
- Bottom: accelerator tunnel
- Blue: baseline source
- Red: conventional source

Plenary discussion on Thursday 16:00-18:00

- Discussion of the recent experts report on ILC in Japan?

- Panel members to present brief notes/slides on the topic and then discussion to follow.

第32回・LC計画推進委員会

日時： 2015年10月15日, 13:00 ~ 15:30 ＞＞ **次回: 2016. 1/7 or 8 （提案）**

場所： 3号館セミナーホール

アジェンダ：

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休憩 (14:45 - 15:00)

＜技術報告＞ 15:00 – 15:30

超伝導高周波・国際会議(SRF-2015) からの報告 山本 明

ー 欧州XFEL 計画・超伝導加速空洞システム建設の進展 ー