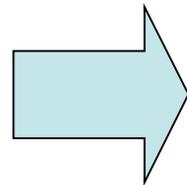


What I have learned about SPS+
Janet Conrad, Sept 5, 2008

Conclusion-before-I-start

It looks like there are 2 possibilities:

- 1) Run this program in >2012 at Fermilab
- 2) Run this program in >2017 at CERN

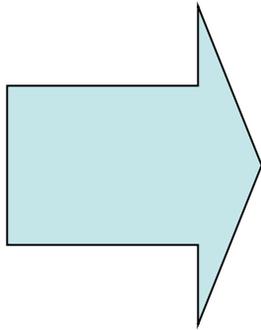


We should start both discussions
Within the community.
This is really good for keeping the
Discussion lively.

What I have learned about SPS+

A proposed upgrade to 1 TeV for the SPS for use as a high-intensity injector to LHC.

The beta-beam group in Europe is also very interested, as they would like to use this machine as an injector into their beta-beam facility.



There is already a substantial Constituency for this upgrade.

Information from Mats Lindroos at CERN

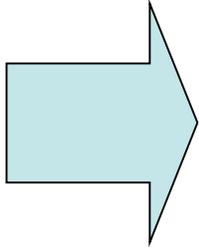
The approved plan (by SPC and council) for LHC includes a new SPS ring (SPS+).

The only parts of the upgrade plans which are financed are
linac4,
PS2 design and engineering studies
SPL design and engineering studies.

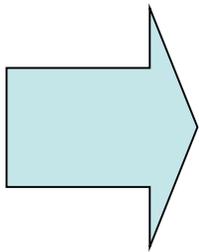
All other parts of the upgrade plans (including SPS+)
will be re-discussed in 2012. when council expects to have
first results from LHC.

First designs for SPS+ are at (at least) the preliminary stage

The options for HEP-physics at CERN beyond LHC include:
DLHC (double energy for which SPS+ is needed),
LHeC (don't know if this needs SPS+)
and beta-beams (for which SPS+ is also needed)



The 2012 date for consideration at CERN is
On a similar timescale to Fermilab.



The difference is that SPS+ needs to be built,
While the Tevatron needs only to be refurbished.

With all of this said, there is not much documentation on SPS+ yet.

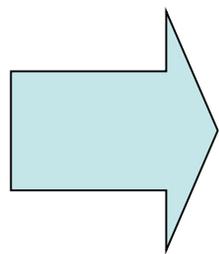
I am in touch with Elena Chapochnikova,
Who is an accelerator physicist who says:

“At the moment the SPS upgrade plans
include only increase in intensity and not in energy.

Probably serious motivation for SPS+ (with 1 TeV) can come from LHC...

New injector of the SPS, PS2, should be in operation
in 2017 - this gives you a time scale for possible intensity increase of the SPS.

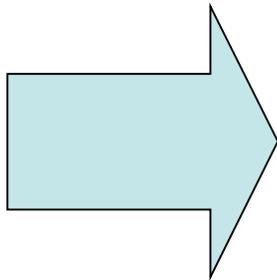
PS2 will be a high intensity ring operating at 50 GeV (1.2×10^{14} pp per 2.4 s cycle)



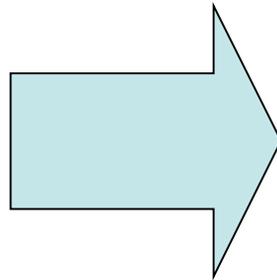
PS2 is direct competition with Project X
And JPARC -- I have not heard this discussed!
*Since Fermilab's Project X appears to be booked,
This is another opportunity for the FT community!*

The intensities under discussion are higher than the Tevatron

So this means experiments can run together and on shortened timescales.



You could imagine a program at Fermilab from 2013 through 2020



You could imagine the same program at CERN from 2017-2020

My personal conclusion:

There is a serious movement at CERN

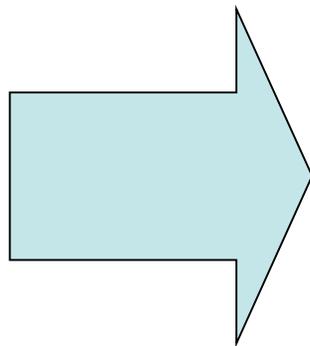
To supply high intensity beams (higher than Fermilab)

From 50 GeV up to 1 TeV.

This is in service to the LHC and so will have strong motivation.

There is a growing group of outside users also pushing it.

CERN has a tradition of FT running and will seriously consider it.



Next person to talk with:

John Ellis

Our tentative plan should be to discuss both options...

So..

On to discussing the paper outline.

I would like to get a first draft together by the next meeting.

The words can be very rough.

The point is to learn what further information we need

And to get some information on how the experiments

“play together”

Next Meeting: Oct 3, 9AM CT