

From wilczek@MIT.EDU Fri May 16 12:18:35 2003
Date: Fri, 9 May 2003 21:56:01 -0400
From: Frank Wilczek <wilczek@MIT.EDU>
To: Marek Gazdzicki <Marek.Gazdzicki@cern.ch>
Subject: Re: a new program at the CERN SPS

Hi,

I am generally sympathetic to your suggestions, but since I am a member of the CERN Science Policy Committee (SPC) it would be inappropriate for me to make substantive comments or endorsements independent of discussion within the committee. Thanks for your creative initiative -- and good luck!

All best wishes,
Frank W.

> Dear Colleagues,

>
> As you may already know recent data of NA49
>from the energy scan program at the CERN SPS show
>several anomalies in the energy dependence of
>hadron production in central Pb+Pb collisions.
>In the attachment you will find 4 plots which
>summarise our main results. Details can be found
>in the presentation of Volker Friese at SQM2003
>(http://www.phy.duke.edu/SQM2003/program/thursday_morning/
>FrieseVolker.ppt) and in our recent publication
>(S. V. Afanasiev et al., Phys. Rev. C66, 054902 (2002)).
> These results seem to indicate that deconfined matter
>is created at the early stage of central Pb+Pb collisions for
>energies larger than about 30 A GeV.
>These observations trigger numerous new questions.
>In particular the striking difference between the energy dependence
>measured for Pb+Pb collisions and p+p interactions suggests
>a systematic study of the system size dependence of the
>energy dependence of hadron production.

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> In a recent discussion of our results with the CERN
>Scientific Director we learned that there is a possibility
>to reopen the heavy ion program at the SPS starting from 2006.
>This program can run in parallel to the LHC experiments.
>We think that the importance of the current results justifies
>a new long term experimental effort which should yield
>systematic measurements of the energy dependence (from 10-200 A GeV)
>of hadron production in collisions of light and medium size nuclei
>(C+C, Si+Si, Ca+Ca). We consider to perform such measurements
>using an experiment based on an upgraded NA49 set-up.
>There may be other approaches, too.

>
> However before starting this new program we would like
>to know your opinion on this subject. Your independent
>evaluation of our ideas is of high importance for us.
>It can serve as a crucial input to a possible
>future evaluation of the proposal by the CERN authorities.
>Of course all your suggestions for other measurements which
>can be performed at the CERN SPS are very welcome.
>Actually CERN has decided to hold a meeting at Cogne next year
>at which a possible SPS program for 2006 onwards will be
>discussed. This meeting will be convened by the Chairman of the
>SPS Committee and by the Scientific Director of
>the fixed target physics.
>It would be important for our community to make an input
>to this discussion process at CERN.

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Thank you in advance,

best regards

Marek Gazdzicki
Peter Seyboth
Reinhard Stock

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