RING/COST/R&D/TARGET WORKING GROUP SUMMARY

ANKENBRANDT
ANFEROV
GELFAND
JACKSON
MACRI
MARINELLI
SCHOESSOW
SPENTZOURIS
SUMMERS
HENNING
RAPIDIS

⇐ WORKING GROUP PARTICIPANTS

WITH JOINT MEETINGS : VLE
: CPV/HYPERON
: [illegible]

GROUP GUIDANCE

1) PRODUCE $\bar{P}$ DIRECTLY WITH 16 GeV PROTONS? • NOT COMPETETIVE...

2) CONSIDER ENERGY RANGES: 1.5-15 GeV/c

0.1-2 GeV/c

3) CAN ALL 2(3) ENERGY RANGES BE PROVIDED BY A SINGLE STORAGE RING? • PROBABLY... NEED TO UNDERSTAND [redacted] PROGRAM PLANNING (I.E. # IRs)

4) FOR LOW ENERGY RANGE, IS THERE ANY DISADVANTAGE TO A STORAGE RING WITH A HIGH MAXIMUM ENERGY? • HIGH ENERGY ELECTRON COOLI
• BIGGER CIRCUMFERE = LOWER LUMINOSI

5) CAN ANY COSTS BE DETERMINED? • NEED MORE SPECIFICS FRO DETECTORS... MACHINE/ DETECTOR INTERFACE ISSUE

6) WHAT R&D IS NEEDED?

7) WHAT SHOULD THE HARDWARE LOOK LIKE?

GAS JETS

- USE PARAMETERS: 10^{15} H/cc
  D = 7 mm OR LARGER
  DIVERGENCE = ±12 mrad

- R&D : BETTER VACUUM PERFORMANCE

FIXED TARGET

- USE $\mathcal{L} = 10^{33}$ ⇒ CONSUMES PBARS AT RATE 3×10^{11}/HR

→ FINAL RUN II DESIGN STACKING RATE
= 2×10^{11}/HR

- NEED TO DEVELOPE TEV33 PLANS TO INCREASE FINAL STACKING RATE:
  1) SLIP STACKING
  2) MULTI-BATCH STACKING
  3) INCREASED IN $\bar{p}$ GENERATION
  4) PROTON DRIVER

- R&D : ELECTRON INJECTION (USING POTENTIAL DEPRESSION IN THE MI) TO IMPROVE $\bar{p}$ EXPERIMENTAL OPERATIONS

LOW ENERGY RING(S)

- A GREAT DEAL OF DETAILED WORK IS STILL NEEDED.
- USE A DETECTOR LENGTH OF 6 m (MAGNET-TO-MAGNET)
- MINIMIZE THE CIRCUMFERENCE

TIME CONSUMING
LABOR INTENSIVE
EXPENSIVE

- IT IS MUCH HARDER TO DESIGN AN ACCELERATOR IN ADVANCE OF A SPECIFIC MISSION. WE NEED A STRAWMAN DETECTOR AND RANGE OF BEAM MOMENTUM.

"STOPPED" ANTIPROTONS

- FNAL IS IN A PHASED, ADIABATIC DEVELOPMENT PROGRAM.
- THE PRESENT GROUP OF "USERS" HAVE AN EXPERIMENTAL PLAN CONSISTENT WITH THE ABOVE PROGRAM
- INITIAL PLAN IS TO DEGRADE 2 GeV/c $\bar{p}$ IN THE MI ENCLOSURE.
- NEED TO CONTINUE MI DECELERATION STUDIES