Jim Miller

VISIT TO NSF FEB 4, 2003

– Y. SEMERTZIDIS, E. STEPHENSON, J. MILLER

NSF: BRAD KEISTER (NUCLEAR), MARV GOLDBERG (HE)

PRESENTATIONS:

DESCRIPTION OF PHYSICS + OUR PLANS – YANNIS

INDIANA LAYOUT PROPOSAL – ED

GENERAL RESPONSE: POSITIVE

THEY ARE RECEPTIVE TO THE NEW IDEA OF USING RINGS

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- $10-15 MILLION PROJECT HARD TO FUND RIGHT NOW
  - BETWEEN MRI (<$2 MILLION) AND MRE (>$100 MILLION)
  - WORKING ON A NEW MECHANISM
  - AS OF NOW, $$ WOULD HAVE TO COME OUT OF OPERATIONS: DEPENDS ON NSF BUDGET DOUBLING....

- THEY ARE HAPPY TO SHARE FUNDING WITH
  - DOE
  - OVERSEAS (ENCOURAGED!)
    ¡
  - COMMON MODEL: DOE PAYS CAP. EQ., NSF SUPPORTS OPERATIONS
  - SUPPORTING PROJECT AT e.g. KVI WOULD BE OK.

- SUPPORTING DEUTERON AT INDIANA WOULD DEPEND ON FUNDING FOR NEUTRON FACILITY (MAY ??)

- BRAD: NEED TO SHARPEN DEUTERON PHYSICS CASE
  - ⇒ STAND-ALONE IF POSSIBLE IN CASE OF JAPAN FAILURE
  - PUT PHYSICS IN CONTEXT OF OTHER EDM EXPTS.
  - SHARPEN PHYSICS OF DEUTERON – IS IT FOGGED BY NUCLEAR UNCERTAINTIES?
  - WOULD LIKE TO SEE MORE THAN ONE THEORIST'S PION EXCHANGE MODEL.

- TIMESCALE
  - NEXT SEPT DEADLINE FOR PROPOSALS
  - BRAD: SUBMIT WHEN READY
    GO OUT FOR REVIEWS
    READY IF OPPORTUNITY FOR FUNDING ARRIVES.

- JOINT CHARGE TO NSAC
  KOVAR (DOE) + KEISTER (NSF)
  INCLUDES MUON, OMITS DEUTERON
- MARV GOLDBERG SUGGESTED NSF HE + NUCLEAR COULD WORK TOGETHER TO FUND IT.
  (KEISTER CONCURRED).

RUMORS FROM THE NSAC DELIBERATIONS – NOW UNDER WAY!

- NOT LIKELY TO FUND AN EXPERIMENT TO DEVELOP A NEW METHOD WHICH MIGHT PAN OUT.

- IN A DIRECT COMPETITION FOR LIMITED FUNDS WITH NEUTRON EDM (HIGHEST PRIORITY), FOLLOWED BY NEUTRON DECAY EXPERIMENTS (NEXT - HIGHEST PRIORITY)

- WE NEED TO MAKE A STRONG PHYSICS/EXPERIMENT CASE ASAP.

→ PROPOSAL OF COURSE WOULD BE BEST.

→ SOLID PHYSICS CASE + REASONABLE EXPT. CASE WOULD DO.

- NEED TO ANSWER:

WHY DEUTERON, VS. Hg^{199}? $d_d \simeq 10^{-26}$ NEEDED...

VS. neutron?

- ONE MEMBER OF COMMITTEE/IMMEDIATELY DISMISSED DEUTERON BECAUSE OF T_{21} PROBLEM. – WE NEED TO DELIVER COUNTER ARGUMENT SOON. – IDEALLY THERE WOULD BE ONGOING DIALOGUE.

- NEED TO KEEP MUON PART AS A VISIBLE FUTURE PROJECT.

HOW DO WE BEST FOLD IT IN WITH THE DEUTERON EXPT.?