

DATE: January 7, 2002

TO: RHIC E-Coolers

FROM: Ady Hershcovitch

SUBJECT: **Minutes of the January 4, 2002 Meeting**

Memo

Present: Michael Harrison, Ady Hershcovitch, Jorg Kewisch, William MacKay, Satoshi Ozaki, Stephen Peggs, Thomas Roser, Dejan Trbojevic, Dong Wang, Jie Wei.

Topics discussed: R&D Plan, Electron Gun, RF Cavities, Simulation of Modified Design.

R&D Plan: at the end of the last meeting, Mike handed Ilan a modified proposal that includes an executive summary, which he had volunteered to write. Jorg is completing work on the drawing. **A detailed schedule is still needed.** Project duration, from the onset (of funding) to beginning of RHIC E-cooling, is expected to last for 5 years. Roughly the schedule will consist of 2 years for fabricating the planned experiment, followed by 1 year of testing and 2 years of RHIC E-cooler construction. Annual cost during the first three years is expected to be \$2M.

Electron Gun Design: skepticism exists in some communities regarding feasibility of a photo-injector with our design parameters. Dejan expressed concern about cooling system complexity of the AES electron gun design.

RF Cavities: Mike reminded us again that DESY had agreed to build us RF cavities during FY02 to be paid for in FY03. Therefore, **a commitment for cavity purchases is needed very soon.** Satoshi suggested sending people to DESY, in conjunction with their trip to EPAC to examine cavities and to set parameters.

Steady-state operation of the cavities has yet to be demonstrated. Cryogenic limitations and mode coupling problems are possible. Need to perform 5 minutes of steady state operation for cryogenic overload. Other tests can be done at a 1% duty factor.

Simulations: Jorg reported on the status of computations for the modified design using MAD. Dong claimed that single bunch performance needs improvement, since it is still hard to maintain beam through de-buncher. Dejan & Thomas suggested moving the solenoid to a realistic position for RHIC (trapezoid instead of inline with cavities). Concern was raised about the ability to physically fit all magnets in their designed locations.