

*DATE:* July 23, 2004

**Memo**

*TO:* RHIC E-Coolers

*FROM:* *Ady Hershcovitch*

*SUBJECT:* **Minutes of the July 23, 2004 Meeting**

Present: Ilan Ben-Zvi, Andrew Burrill, Rama Calaga, Alexei Fedotov, Wolfram Fischer, Ady Hershcovitch, Animesh Jain, Dmitry Kayran, Vladimir Litvinenko, William Mackay, Thomas Roser, Dejan Trbojevic, Jie Wei.

Topics discussed: EPAC, Cryomodule Final Design Review, and Superconducting Solenoid.

**EPAC:** Thomas opened the meeting with a report on the last EPAC meeting. At that conference, both Sergei Nagaitsev, who had an invited talk on high-energy electron cooling, and Igor Meshkov, who received a prize for his work on electron beam cooling, mentioned our RHIC E-Cooling program. The topic switched to CELSIUS; Thomas asked about Alexei experimental plans this machine. Alexei replied that he, Vladimir, (and possibly Ilan) are scheduled to perform experiment on CELSIUS in early December. Originally, they were scheduled to work with a magnesium beam. However, now the plan is to experiment with protons. It is actually better since the problem having partially stripped magnesium and therefore the physics is different is being circumvented.

**Cryomodule Final Design Review:** Ilan reported on the final design review of the cryomodule. The design is complete and manufacturing has commenced. In answer to questions regarding expected cavity gradient, Ilan estimated it to be in the range of 15-20 MV/m, with better assurance for the larger value with Electro-polishing. The meeting was attended by six people from the Navy, a group of our collaborators on the cavity from Jefferson Lab and AES, as well as a number of consultants. In that review meeting Ilan was notified about approval of \$ 500,000 in funding for the diamond amplified cathode R&D.

Ilan also reported on a switch in our program to a super conducting RF gun, and that the Navy has instructed their contractors, developing photo injectors, to switch to our frequency of 703.75 MHz in anticipation for their testing at our facility.

**Superconducting Solenoid:** in answer to Thomas' question, Animesh reported about changes that were made as a consequence of increasing the solenoid field to 5 Tesla. The mechanical design of the solenoid was strengthened to accommodate the larger forces, a different superconducting cable is to be used to improve quench characteristics. And, the length of the corrector magnets was increased to 30 cm (from 15).