

*DATE:* February 27, 2004

*TO:* RHIC E-Coolers

*FROM:* Ady Hershcovitch

*SUBJECT:* **Minutes of the February 27, 2004 Meeting**

## Memo

Present: Ilan Ben-Zvi, Rama Calaga, Ady Hershcovitch, Vladimir Litvinenko, Christoph Montag, Thomas Roser.

Topics discussed: Couplers, Cavity Cleaning, Magnetic Fringe Field Issues

**Couplers:** Vladimir opened the meeting by reporting that Harald Hahn finished testing the HOM coupler, and that Harald plans to write a report about the results. He also reported that a couple of probes melted. Ilan pointed out that those probes were designed for pulsed operation not to be exposed to the CW power of the SNS cavity.

**Cavity Cleaning:** Ilan reported on his visit to the superconducting facility at ANL, where high pressure water rings are used in cavity cleaning. At this stage, high pressure water cleaning may not be absolutely necessary. And, if high pressure water cleaning must be performed, it does not have to be done at Jefferson Lab, where Buffered Chemical Polishing (BCP) will be done on our cavity. Next a short discussion ensued regarding the difference between Chemical and Electro-polishing. Ilan said that Electro-polishing is an old technique that is now being rediscovered. Unlike Chemical polishing, Electro-polishing does not result in a “dip” in the cavity Q at very high electric fields. Ilan went on to explain that Chemical cleaning results in grain boundaries and sharp tips; that does not happen in Electro-polishing. It should be kept under consideration. Electro-polishing can be performed for us at DESY.

**Magnetic Fringe Field Issue:** Thomas said that Michael Harrison reported to him that he would like to cut-off the fringe fields of the superconducting solenoid. For that Mike needs guidance from those who perform beam tracking. Christoph said that Jorg is developing a tracking subroutine. However, he has not finished. Vladimir said that the problem can be solved with additional quadrupoles. It is easy to determine the necessary number of quadrupoles. But, that may be too many to be practically useful. The number of sufficient quadrupoles remains to be determined.