The Cathode Preparation Chamber for the DC High Current High Polarization Gun (The Gatling gun)

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A very compact cathode preparation chamber for the high current high polarization gun for the proposed eRHIC project has been designed and assembled at the Brookhaven National Laboratory. This preparation chamber will be used to activate GaAs photocathodes to be used in the Gatling gun. The chamber is capable of achieving XHV in a consistent basis. Bulk GaAs samples were activated in this chamber with standard QE for the respective wavelength. In this paper, we discuss the design of this vacuum system, the heat cleaning and the activation procedure for the GaAs sample which will eventually be followed for the Gatling gun.

References: