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**Measurement of vector mesons via di-electrons in Cu+Cu collisions at  $\sqrt{s_{NN}} = 200$  GeV at RHIC-PHENIX** SUSUMU ODA, CNS, University of Tokyo, THE PHENIX COLLABORATION — Measurement of vector mesons via di-leptons is considered to be one of the most promising probes for the early hot dense stages of relativistic heavy ion collisions. The yields of heavy quarkonia are predicted to be suppressed in a deconfined quark gluon plasma due to the color Debye screening. However, the yields will be modified by other competing processes such as recombination, shadowing and heavy quark energy loss. Therefore systematic study of  $J/\psi$  production for several system sizes and energy densities is necessary to understand the production and suppression mechanism. The light vector mesons ( $\rho$ ,  $\omega$  and  $\phi$ ) are expected to be sensitive to possible in-medium modifications by chiral symmetry restoration. In the RHIC Run-5 starting in January 2005, the PHENIX experiment measured Cu+Cu collisions at  $\sqrt{s_{NN}} = 200$  GeV. The current status of  $J/\psi$ ,  $\phi$  and  $\omega \rightarrow e^+e^-$  analysis in Cu+Cu collision will be presented.

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