

**VEPP-5 Positron Source Yield Semi-Analytical Estimations**, A.A. KULAKOV, P.V. MARTYSHKIN, Budker INP, Russia - Simulations of electromagnetic showers in conversion target utilizing GEANT package provides positron radial and energy-angle distributions. Energy of incident electrons is 300 MeV. Angular acceptance of a matching device and positron bunch lengthening impose most tight restrictions on final positron yield. Analytical formulae determine a region on energy-angle plane within which positrons are captured. For final energy of positrons 500 MeV and dumping-ring energy acceptance  $\pm 3\%$  obtained yield is 6.5%. Estimations on phase slippage in first accelerator section decreases yield to 5.5%. Analytical considerations narrows a choice of parameters for matching device.