**Automatic Closed Orbit Error Correction System of** a Compact Storage Ring for SR Lithography, H. TANAKA, H. SHIMANO, Mitsubishi Electric Corporation - The system has been developed to correct an SR position drift at an SR lithography beam line during long-term operations. An SR position monitor consisting of two photo diodes was arranged at the SR lithography beam line and vertical SR positions have been measured continuously. The closed orbit drift is corrected using a steering magnet automatically. The SR position centering with  $\pm 10 \,\mu m$  at the beam line has been attained for 6 months. The SR position drift without the correction is about 2 mm within a year mainly on account of building and ring distortions due to environmental thermal stress. As the distance between the SR position monitor and the SR source is about 7 m, the SR position monitor is sensitive to the closed orbit drift. Closed orbit drifts at positions of beam position monitors(BPMs) at straight sections are about 0.2 mm, and the correction cannot be done using the BPMs on account of the small values.