

Abstract Submitted  
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**The Optical Assembly of Lens System in Microcolumn** WON JANG, JONG PARK, Hanseo University, HO KIM, Sunmoon University, CEBT COLLABORATION — The resolution and performance of micro-column is determined by factors of optical aberration, which are dependent of the size, the roundness of lens aperture, and the precise alignment. The micro-column is composed of deflector, source lenses and Einzel lenses with the whole length less than 10mm. The optical aberrations of micro-column are reduced owing to the considerable reduction of its dimension compared with that of conventional electron column. A precise circular aperture was pierced on a  $3\mu\text{m}$  thin silicon membrane by laser machining. The range of the aperture diameter of electron lenses usually ranges from 10 to  $200\mu\text{m}$ , and the spacing between electrodes is from  $100\mu\text{m}$  to several hundreds of  $\mu\text{m}$ . Laser diffraction pattern observed through the assembled lens system, and the distortion of the diffraction pattern can be easily recognized. An Airy circular diffraction was observed and monitored for the clear pattern..

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