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**Characterization of a low voltage micro-electron-column for scan field size and visibility of current image** WON KWEON JANG, Hanseo University, YOUNG CHUL KIM, HO SEOB KIM, Sunmoon University — Low voltage micro-electron-column was fully fabricated. The laser alignment and bonding method was employed for assembling source lens and Einzel lens with precision lower than  $\pm 4\%$ . The optimal condition for improving visibility of current image and enlargement of scan field size was investigated in single and double-deflector employed system. At fixed voltage of electron emission tip, the focusing electron beam with source lens showed larger scan field size and poorer visibility than those with Einzel lens. Theoretical 3-D simulation indicated that focusing electron beam with source lens should have larger spot size and deflection than those of focusing with Einzel lens. Barrel distortion appeared in single deflector employed system was compensated in double deflector employed system when the voltage of Einzel lens was controlled properly, and the clear and enlarged current image was possible to obtain in our fully assembled micro-electron-column operating in low voltage condition.

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