1062-92-263   **Jiehua Zhu*** (`jzhu@georgiasouthern.edu`), Mathematical Sciences, Georgia Southern University, 0203 Georgia Ave., Statesboro, GA 30460, and **Xiezhang Li** (`xli@georgiasouthern.edu`), Mathematical Sciences, Georgia Southern University, 0203 Georgia Ave., Statesboro, GA 30460. *Full row-rank matrix from strip-based projection model.*

Let $C\mathbf{u} = \mathbf{k}$ be an underdetermined linear system generated by the strip-based projection model in discrete tomography, where C is row-rank deficient. In the case of one scanning direction the linear dependency of the rows of C is studied in this paper. An index set H is specified such that if all rows of C with row indices in H are deleted then the rows of resultant matrix F are maximum linearly independent rows of C. Therefore, the corresponding system $F\mathbf{u} = \widetilde{\mathbf{k}}$ is equivalent to $C\mathbf{u} = \mathbf{k}$ and consequently, the cost of an image reconstruction from $F\mathbf{u} = \widetilde{\mathbf{k}}$ is reduced. (Received August 10, 2010)