

(7)

Definition: The rank of a matrix A , written $\text{rank}(A)$ is equal to the maximum number of linearly independent rows of A , or equivalently, the dimension of the row space of A .

Theorem The maximum number of linearly independent rows of any matrix A is equal to ~~the~~ the maximum number of linearly independent columns of A , thus the dimension of the row space of A is equal to the dimension of the column space of A .