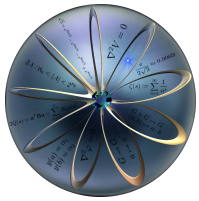

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singular

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1 Singular

An $m \times n$ matrix A with entries from a field is called *singular* if its rows or columns are linearly dependent. This is equivalent to the following conditions:

1. The nullity of A is greater than zero ($\text{null}(A) > 0$).
2. The homogeneous linear system $A\mathbf{x} = 0$ has a non-trivial solution.

If $m = n$ this is equivalent to the following conditions:

1. The determinant $\det(A) = 0$.
2. The rank of A is less than n.