# Strange properties of curves lying on a smooth quadric 

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Every curve (i.e. an effective divisor) lying on a smooth quadric $Q=\mathbf{P}^{1} \times \mathbf{P}^{1}$ is given by a bi-homogeneous bi-graded polynomial $F\left(u, u^{\prime}, v, v^{\prime}\right)$ in the bi-homogeneous bi-graded ring $G(Q)=K\left[u, u^{\prime}, v, v^{\prime}\right]$. Since every such polynomial is given through a matrix, it is natural to study the curves of $Q$ using such matrices. A particular effort is dedicated in understanding the geometrical meaning of the rank of these matrices.

