Castañeda, Álvaro; van den Essen, Arno

A new class of nilpotent Jacobians in any dimension. (English) Zbl 1451.14173

The authors classify the polynomial maps of the form $H = (u(x, y), u_2(x, y, x_3), \ldots, u_{n-1}(x, y, x_n), h(x, y))$ with $JH$ nilpotent. They first prove that $u(x, y) = P(y + a(x))$ for some polynomial $P(t) \in K[t]$ if $JH$ is nilpotent. Then, they give the structure of $H$. Finally, they prove that $F = x + H$ is invertible if $JH$ is nilpotent.

Reviewer: Yan Dan (Changsha)

MSC:
14R15 Jacobian problem
14R10 Affine spaces (automorphisms, embeddings, exotic structures, cancellation problem)

Keywords:
Jacobian conjecture; nilpotent Jacobian matrix; polynomial maps

Full Text: DOI

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