Indecomposable matrices defining plane cubics

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Consider a Weierstrass cubic in $\mathbb{CP}^2$ defined by the polynomial

$$F(x,y,z) = yz^2 - x(x-y)(x-\lambda y) = 0,$$

for some $\lambda \neq 0, 1$. For given F we find all linear matrices

$$A(x,y,z) = x\,A_x + y\,A_y + z\,A_z$$

such that

$$\det A(x,y,z) = c\,F(x,y,z)^2,$$

where A_x, A_y, A_z are 6×6 matrices over $\mathbb{C}$ and $0 \neq c \in \mathbb{C}$. In other words, we find all (decomposable and indecomposable) 6×6 linear determinantal representations of Weierstrass cubics.

As a corollary we verify the Kippenhahn conjecture for 6×6 matrices.