NON-ALGEBRAIC OSCILLATIONS FOR PREDATOR-PREY MODELS

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Abstract: We prove that the limit cycle oscillations of the celebrated Rosenzweig–MacArthur differential system and other predator-prey models are non-algebraic.

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Key words: Planar polynomial differential system, Rosenzweig–MacArthur system, predator-prey model, limit cycle, periodic orbit, invariant algebraic curve.