Programme du 50e : Méthodes computationnelles rigoureuses et topologiques
pour la dynamique en grande dimension
« Atelier sur la dynamique de calcul rigoureuse dans des dimensions infinies »
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"Workshop on Rigorous Computational Dynamics in Infinite Dimensions"
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A new lower bound for H(4)

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We provide a computer-assisted proof for a new lower bound on H(4) in the Hilbert 16th problem, that is the maximum number of limit cycles that can occur in a polynomial planar vector field of degree 4. Indeed, we exhibit a quartic vector field for which we rigorously prove the existence of at least 24 limit cycles.

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