

Certificate

We hereby certify that Ali Bakhshalizadeh Badaki presented the poster entitled Global Dynamics Analysis of a Class of Quadratic Polynomial Differential Systems with an Invariant Plane in \mathbb{R}^3 at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Bruno Henrique Garcia Malvestio presented the poster entitled Dinâmica de um modelo de HIV usando campos vetoriais suaves por partes at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that **Débora Bispo de Oliveira Costa** presented the poster entitled Pesadelo de Fubini - Fenômeno Contraintuitivo de Teoria da Medida at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Eduarda Dutra Almeida presented the poster entitled Conexão de Shilnikov Em Sistemas Lineares Por Partes em \mathbb{R}^3 . Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNI-CAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that **Gerardo Anacona Erazo** presented the poster entitled Center of Cubics of Polynomial Differential Systems at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Giuliano Angelo Zugliani presented the poster entitled Towards a conjecture by Arnol'd at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that **Ismael Junio Ramos Machado** presented the poster entitled Modelagem com Equações Diferenciais: competição e coexistência at the XIII Workshop on Dynamical Systems em modelos populacionais. (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Jackson Itikawa presented the poster entitled Limit cycles bifurcation in multi-parametric differential systems having a center at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



XIII Workshop on Dynamical Systems

Celebrating the 80th birthday of Marco Antonio Teixeira

Campinas/SP - Brazil http://www.ime.unicamp.br/~mat80/

Certificate

We hereby certify that Luiz Fernando Gonçalves presented the poster entitled Generic Singularitires of Relay Systems at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Marly Tatiana Anacona Cabrera presented the poster entitled The focus-center-limit cycle bifurcation in Buck Converter with PI controller at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Murilo A. de Jesus Zigart presented the poster entitled Matching cross-cap singularities of Gutierrez-Sotomayor flows at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNI-CAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Nicolas Davi de Oliveira Deliberto presented the Blow-Up and Nilpotent Singularities entitled Normal Forms at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNI-CAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that **Rony Cristiano** presented the poster entitled *Hopf-like* bifurcation in the Holling-Tanner model with discontinuous harvesting action at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Tiago Carvalho presented the poster entitled Shadowing lemma for piecewise Smooth vector fields at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Alacyr José Gomes presented the poster entitled Principal Configuration near a hyperbolic singular point of a linear system at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Alex Carlucci Rezende presented the poster entitled Period function for a class of piecewise Hamiltonian systems in the plane at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that **Beatriz Catarene Rabelo de Carvalho** presented the poster entitled Local cyclicity for double-reversible cubic systems with three aligned centers at the XIII Workshop on Dynamical Systems (MAT80) -Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Carlos Vinicius das Neves Silva presented the poster entitled Holomorphic Systems at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Durval José Tonon presented the poster entitled Generic one-parameter families of 3-dimensional Filippov Systems at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNI-CAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Fabio Scalco Dias presented the poster entitled Bounded Kukles systems of degree three at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Jaime Rezende de Moraes presented the poster entitled Analytic study of two limit cycles bifurcating from a zero-Hopf equilibrium at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Jéfferson Luiz Rocha Bastos presented the poster entitled Evolutionary Stable Strategies and Cubic Vector Fields at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNI-CAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Letícia Souza Cândido presented the poster entitled Conley index of low codimension singularities of Filippov vector fields at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Luan Vinicio de Mattos Ferreira Silva presented the poster entitled On the boundedness of solutions of a forced discontinuous oscillator at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Luci Roberto presented the poster entitled Periodic Orbits in the most general Perturber Hénon-Heiles Cubic Hamiltonian System at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Marcelo Messias presented the poster entitled Global Dynamics and Bifurcation of Periodic Orbits and Invariant Tori in a Modified Nosé-Hoover Oscillator at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Marcio Ricardo Alves Gouveia presented the poster entitled Hyperbolicity of renormalization for dissipative gap mappings at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

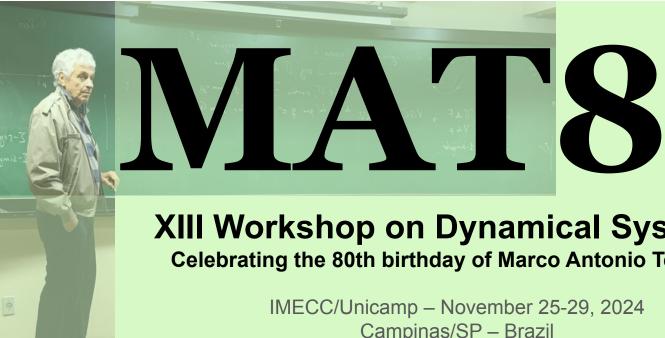
Campinas, November 29th, 2024.



Certificate

We hereby certify that Murilo de Souza Penteado presented the poster entitled A Melnikov analysis for a class of piecewise smooth differential systems with nonsmooth perturbations at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



XIII Workshop on Dynamical Systems

Celebrating the 80th birthday of Marco Antonio Teixeira

Campinas/SP - Brazil http://www.ime.unicamp.br/~mat80/

Certificate

We hereby certify that Pedro Toniol Cardin presented the poster entitled Periodic solutions for piecewise smooth Liénard equations with large damping at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Rodrigo Thomaz da Silva presented the poster entitled The study of polynomial submersions via their bifurcation set at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNI-CAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Tamires Imaculada Santos Costa presented the semi-hiperbólicos e nilpotentes em sistemas diferenciais planares. Classificação de pontos hiperbólicos at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Warley Mendes Batista presented the poster entitled Singularidades de codimensão um de Campos Vetoriais 3D Suaves por Partes Simétricos at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that **Alexander Fernandes da Fonseca** presented the poster entitled Continuous planar piecewise linear systems with three zones without equilibrium points at the XIII Workshop on Dynamical Systems (MAT80) -Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Alisson de Carvalho Reinol presented the poster entitled Dynamic study of the "simplest" memristor-based chaotic circuit at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that **Ana Cristina de Oliveira Mereu** presented the poster entitled Crossing Limit Cycles for Discontinuous Piecewise Linear Differential Centers Separated by Two Circles at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Bruna da Silva Araujo presented the poster entitled An Ordinary Differential Equations Approach to Solving Polynomials at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that **Daniel J. Pagano** presented the poster entitled *Hopf*-Hopf Bifurcation Analysis in an Inductively Coupled Oscillator Circuit at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNI-CAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that João Carlos da Rocha Medrado presented the poster entitled Bifurcations of symmetrical two-zone piecewise vector fields at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that **Leonardo Pereira Costa da Cruz** presented the poster entitled Local and Global Analysis of the Displacemente Map for Some Near Integrable Sistems at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that **Letícia Fernanda Alves** presented the poster entitled Ordinary Differential Equations for Competition Between Normal and Tumor Cells: Growth Dynamics and Parameter Estimation at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that **Luana Ascoli** presented the poster entitled *Asymptotic behavior of the Hilbert Number in planar piecewise polynomial vector fields* at the XIII Workshop on Dynamical Systems (MAT80) - *Celebrating the 80th birthday of Marco Antonio Teixeira*, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

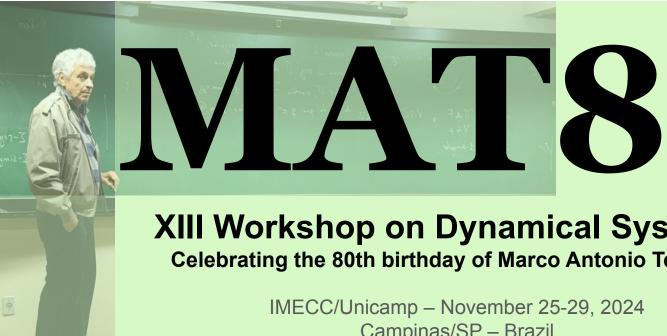
Campinas, November 29th, 2024.



Certificate

We hereby certify that Lucas Queiroz Arakaki presented the poster entitled Inverse Jacobi multipliers and the nilpotent center problem in \mathbb{R}^3 at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNI-CAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



XIII Workshop on Dynamical Systems

Celebrating the 80th birthday of Marco Antonio Teixeira

Campinas/SP - Brazil http://www.ime.unicamp.br/~mat80/

Certificate

We hereby certify that Murilo Rodolfo Cândido presented the poster entitled Revealing Canard-Type Invariant Tori in a Modified Nosé-Hoover Oscillator at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.

Ricardo Miranda Martíns

On behalf of the Organizing Committee



Certificate

We hereby certify that **Sonia Isavel Renteria Alva** presented the poster entitled Crossing limit Cycles of the Planar Discontinuous Piecewise Linear Hamiltonian System at the XIII Workshop on Dynamical Systems (MAT80) -Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that **Yingjian Liu** presented the poster entitled *Moduli of* continuity of Lyapunov exponents at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Matias Zimmermann presented the poster entitled Polynomial Decay of Correlations via Renewal Theory for Operators at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNI-CAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Maurício Lima presented the poster entitled Onedimensional Piecewise Smooth Rational Degree Maps at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that **Ana Livia Rodero** presented the poster entitled *Exis*tence and nonexistence of Puiseux inverse integrating factors and Puiseux first integrals at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that **Eddie Nijholt** presented the poster entitled *Network* Structure as Exotic Symmetry at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Fernanda dos Anjos Félix Becatti presented the poster entitled Ciclos limite de grande amplitude em sistemas lineares definidos por partes at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Geovane Rocha de Araujo presented the poster entitled O Problema de Sitnikov e a Existência de Conjuntos Invariantes do Tipo "Ferradura de Smale" at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Jeferson Cassiano presented the poster entitled Poincaré-Mel'nikov Like Integrals in the Distribution Sense at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that **Leandro de Jesus Nascimento Bacelar** presented the poster entitled A Study on the Global Phase Portraits of Nilpotent Centers with Cubic Nonlinearities at the XIII Workshop on Dynamical Systems (MAT80) -Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Marina Andrade Domingues presented the poster entitled Injetividade global de difeomorfismos locais at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that Sajjad Bakrani Balani presented the poster entitled Sparse recovery and nonlinear basis pursuit at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.



Certificate

We hereby certify that **Victor Augusto Vieira Pinto** presented the poster entitled Estimation of Ordinary Differential Equation Parameters in Mass-Spring Systems Modeled by the Duffing Equation at the XIII Workshop on Dynamical Systems (MAT80) - Celebrating the 80th birthday of Marco Antonio Teixeira, held at Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, from November 25th to November 29th, 2024.

Campinas, November 29th, 2024.