





Jean-Baptiste Bouvier

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CURRENT POSITION	University of Illinois Urbana-Champaign , Urbana, IL, USA Postdoctoral Researcher, Department of Aerospace Engineering	2023
PREVIOUS POSITIONS	University of Illinois Urbana-Champaign , Urbana, IL, USA Research Assistant, Department of Aerospace Engineering	2019 – 2023
	PNNL (Pacific Northwest National Laboratory) , Richland, WA, USA PhD Intern in the Optimization & Control group, Optimization of resilient grid	2021
	CNES (French space agency) , Toulouse, France Intern in Flight Dynamics, Mission design of a satellite constellation	2019
	University of Illinois Urbana-Champaign , Urbana, IL, USA Research Assistant, Department of Aerospace Engineering	2017 – 2018
EDUCATION	University of Illinois Urbana-Champaign , Urbana, IL, USA Ph.D., Aerospace Engineering Thesis: <i>Guaranteed Resilience of Autonomous Systems to Partial Loss of Control Authority over their Actuators</i> Advisor: Prof. Melkior Ornik	2019 – 2023
	M.Sc., Aerospace Engineering Thesis: <i>Orbit Control for a Spacecraft around a Splitting Contact Binary Asteroid</i> Advisor: Prof. Koki Ho	2017 – 2018
	ISAE Supaéro , Toulouse, France M.Sc., Aerospace Engineering	2015 – 2017
	Lycée du Parc , Lyon, France Preparatory Classes in Mathematics, Physics and Engineering	2013 – 2015
JOURNAL PUBLICATIONS	<p>[1] JB. Bouvier, SP. Nandanoori, M. Ornik. Losing control of your network? Try resilience theory. <i>Submitted to IEEE Transactions on Control of Network Systems</i>.</p> <p>[2] JB. Bouvier, H. Panag, R. Woollands, M. Ornik. Resilient trajectory tracking to partial loss of control authority over actuators with actuation delay. <i>Submitted to Journal of Guidance, Control, and Dynamics</i>.</p> <p>[3] JB. Bouvier, K. Xu, M. Ornik. Quantitative resilience of generalized integrators. <i>IEEE Transactions on Automatic Control</i>, 2023.</p> <p>[4] JB. Bouvier, M. Ornik. Resilience of linear systems to partial loss of control authority. <i>Automatica</i>, 152, pp. 110985, 2023.</p> <p>[5] JB. Bouvier, M. Ornik. Designing resilient linear systems. <i>IEEE Transactions on Automatic Control</i>, 67 (9), pp. 4832–4837, 2022.</p> <p>[6] JB. Bouvier, M. Ornik. The maximax minimax quotient theorem. <i>Journal of Optimization Theory and Applications</i>, 192, pp. 1084–1101, 2022.</p>	

	<p>[7] TM. Silva, JB. Bouvier, K. Xu, M. Hirabayashi, K. Ho. Spacecraft trajectory tracking and parameter estimation around a splitting contact binary asteroid. <i>Acta Astronautica</i>, 171, pp. 280–289, 2020.</p> <p>[8] BB. Jagannatha, JB. Bouvier, K. Ho. Preliminary design of low-energy, low-thrust transfers to halo orbits using feedback control. <i>Journal of Guidance, Control and Dynamics</i>, 42 (2), pp. 260–271, 2019.</p>	
PEER-REVIEWED CONFERENCE PUBLICATIONS	<p>[9] M. Ornik, JB. Bouvier. Assured system-level resilience for guaranteed disaster response. <i>8th IEEE International Smart Cities Conference</i>, 2022.</p> <p>[10] JB. Bouvier, M. Ornik. Quantitative resilience of linear systems. <i>20th European Control Conference</i>, pp. 485–490, 2022.</p> <p>[11] JB. Bouvier, SP. Nandanoori, M. Ornik, S. Kundu. Distributed transient safety verification via robust control invariant sets: a microgrid application. <i>2022 American Control Conference</i>, pp. 2202–2207, 2022.</p> <p>[12] JB. Bouvier, K. Xu, M. Ornik. Quantitative resilience of linear driftless systems. <i>SIAM Conference on Control and its Applications</i>, pp. 32–39, 2021.</p> <p>[13] JB. Bouvier, M. Ornik. Resilient reachability for linear systems. <i>21st IFAC World Congress</i>, pp. 4409–4414, 2020.</p>	
OTHER PUBLICATIONS	<p>[14] JB. Bouvier, H. Panag, R. Woollands, M. Ornik. Resilience of orbital inspections to partial loss of control authority of the chaser satellite. <i>2022 AAS/AIAA Astrodynamics Specialist Conference</i>.</p> <p>[15] JB. Bouvier, W. Zanga (supervised by S. Lizy-Destrez and B. Le Bihan). Strategies for space rendezvous on Lunar Distant Retrograde Orbits. <i>ISAE Supaéro</i>, 2017.</p>	
TEACHING EXPERIENCE	University of Illinois Urbana-Champaign AE 461: Structures and Control Lab AE 352: Aerospace Dynamical Systems AE 483: UAV Navigation and Control Illinois Aerospace Institute Summer Camp	Spring 2022, Spring 2023 Fall 2019 Fall 2018 Summer 2018
RECENT HONORS	Mavis Future Faculty Fellowship John V. Breakwell Student Award by the American Astronautical Society Student Travel Award to the 2022 American Control Conference EUCA Student Support Program for the 2022 European Control Conference PNNL Outstanding Performance Award Student Travel Award to the SIAM Conference CT21 Aerospace Outstanding Graduate Student Fellowship	2022-2023 Summer 2022 Summer 2022 Summer 2022 Fall 2021 Summer 2021 Spring 2020
REVIEWER	IEEE Conference on Decision and Control IEEE Transactions on Control Systems Technology American Control Conference IFAC World Congress	2023 2023 2023 2020
MENTORING	Mentoring Matters at Illinois (2-day workshop)	2023