

Peer-reviewed Journal Papers of Prof. Marc Avila

1. C. Verseux, C. Heinicke, T. P. Ramalho, J. Determann, M. Duckhorn, M. Smagin and **M. Avila**. A low-pressure, N₂/CO₂ atmosphere is suitable for cyanobacterium-based life-support systems on Mars. *Front. Microbiol.*, 12:611798, 2021.
2. D. Feldmann, D. Morón and **M. Avila**. Spatiotemporal intermittency in pulsatile pipe flow. *Entropy*, 23:46, 2021.
3. D. Xu, B. Song and **M. Avila**. Non-modal transient growth of disturbances in pulsatile and oscillatory pipe flows. *J. Fluid Mech.*, 907:R5, 2021.
4. D. Xu, M. Heil, T. Seeböck and **M. Avila**. Resonances in pulsatile channel flow with an elastic wall. *Phys. Rev. Lett.*, 125:254501, 2020.
5. C. Heinicke, L. Orzechowski and **M. Avila**. The MaMBA-concept for an extraterrestrial base and its first module mock-up. *Acta Astronaut.*, 173:404–413, 2020.
6. D. Xu, A. Varshney, X. Ma, B. Song, M. Riedl, **M. Avila** and B. Hof. Nonlinear hydrodynamic instability and turbulence in pulsatile flow. *Proc. Natl. Acad. Sci. U.S.A.*, 117:11233–11239, 2020.
7. S. Gasow, Z. Lin, H.C. Zhang, A.V. Kuznetsov, **M. Avila** and Y. Jin. Effects of pore scale on the macroscopic properties of natural convection in porous media. *J. Fluid Mech.*, 891:A25, 2020.
8. J.M. Lopez, D. Feldman, M. Rampp, L. Shi and **M. Avila**. nsCouette – A high-performance code for direct numerical simulations of turbulent Taylor–Couette flow. *SoftwareX*, 11:100395, 2020.
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13. D. Xu and **M. Avila**. The effect of pulsation frequency on transition in pulsatile pipe flow. *J. Fluid Mech.*, 857:937–951, 2018.
14. J. Kühnen, B. Song, D. Scarselli, N. B. Budanur, A. P. Willis, **M. Avila** and B. Hof. Destabilizing turbulence in pipe flow. *Nat. Phys.*, 14:386–390, 2018.
15. D. Feldman and **M. Avila**. Overdamped large-eddy simulations of turbulent pipe flow up to $Re_\tau = 1500$. *J. Phys.: Conf. Ser.*, 1001:012016, 2018.
16. G. Mamatsashvil, F. Stefani, A. Guseva and **M. Avila**. Quasi-two-dimensional nonlinear evolution of helical magnetorotational instability in a magnetized Taylor–Couette flow. *New J. Phys.*, 20:013012, 2018.

17. P. Ritter, S. Zammert, B. Song, B. Eckhardt and **M. Avila**. Analysis and modeling of localized invariant solutions in pipe flow *Phys. Rev. Fluids*, 3:013901, 2018.
18. A. Guseva, A. P. Willis, R. Hollerbach and **M. Avila**. Transport properties of the azimuthal magnetorotational instability. *Astrophys. J.*, 849:92, 2017.
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