## The PENCIL CODE Newsletter

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## 1 PCUM 2024 in Barcelona

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## 3 Papers since May 2024

As usual, we look here at new papers that make use of the PENCIL CODE. Since the last newsletter of December 15st, 10 new papers have appeared on the arXiv, plus 15 others, some of which were just preprints and have now been published in a journal. We list both here, 25 altogether. A browsable ADS list of all PENCIL CODE papers can be found on: https: //ui.adsabs.harvard.edu/public-libraries/ iGR7N570Sy6AlhDMQRTe\_A. If something is missing in those entries, you can also include it yourself in: https://github.com/pencil-code/pencil-code/ blob/master/doc/citations/ref.bib, or otherwise just email brandenb@nordita.org. А compiled version of this file is available as https://github.com/pencil-code/website/blob/ master/doc/citations.pdf, where we also list a total of now 112 code comparison papers in the last section "Code comparison & reference". Those are not included in our list below, nor among the now total number of 699 research papers that use the PENCIL CODE.

Brandenburg, A., Neronov, A. and Vazza, F., Resis- tively controlled primordial magnetic turbulence de- cay. Astron. Astrophys., 2024a, 687, A186.
Brandenburg, A. and Banerjee, A., Turbulent magnetic decay controlled by two conserved quantities. <i>arXiv</i> <i>e-prints</i> , 2024, arXiv:2406.11798.
Brandenburg, A., Iarygina, O., Sfakianakis, E.I. and Sharma, R., Magnetogenesis from axion-SU(2) infla- tion. arXiv e-prints, 2024b, arXiv:2408.17413.
Dehman, C. and Brandenburg, A., Reality of Inverse Cascading in Neutron Star Crusts. arXiv e-prints, 2024, arXiv:2408.08819.
Korpi-Lagg, M.J., Mac Low, M.M. and Gent, F.A., Computational approaches to modeling dynamos in galaxies. <i>Living Reviews in Computational Astro-</i> physics, 2024, <b>10</b> , 3.
Lipatnikov, A.N., Towards large eddy simulations of premixed turbulent flames without a combustion model. arXiv e-prints, 2024, arXiv:2408.07668.
Lyra, W., Yang, C.C., Simon, J.B., Umurhan, O.M. and Youdin, A.N., Rapid Protoplanet Formation in Vortices: Three-dimensional Local Simulations with Self-gravity. Astrophys. J. Lett., 2024, 970, L19.
Maity, S.S., Sarkar, R., Chatterjee, P. and Srivastava, N., Changes in Photospheric Lorentz Force in Erup- tive and Confined Solar Flares. Astrophys. J., 2024, 962, 86.
Mtchedlidze, S., Domínguez-Fernández, P., Du, X., Carretti, E., Vazza, F., O'Sullivan, S.P., Branden- burg, A. and Kahniashvili, T., Intergalactic medium rotation measure of primordial magnetic fields. arXiv

Saieed, A. and Hickey, J.P., Viscosity-modulated clustering of heated bidispersed particles in a turbulent gas. *Journal of Fluid Mechanics*, 2024, **979**, A46.

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- Sankar Maity, S., Chatterjee, P., Sarkar, R. and Mytheen, I.S., Evolution of reconnection flux during eruption of magnetic flux ropes. arXiv e-prints, 2024, arXiv:2407.18188.
- Schober, J., Rogachevskii, I. and Brandenburg, A., Efficiency of dynamos from an autonomous generation of chiral asymmetry. *Phys. Rev. D*, 2024, **110**, 043515.
- Sengupta, D., Cuzzi, J.N., Umurhan, O.M. and Lyra, W., Length and Velocity Scales in Protoplanetary Disk Turbulence. Astrophys. J., 2024, 966, 90.
- Vashishth, V., Hysteresis Near the Transition of the Large-Scale Dynamo in the Presence of the Small-Scale Dynamo. Sol. Phys., 2024, 299, 115.
- Wang, K., Wang, H., Zheng, J., Luo, K. and Fan, J., Particle-resolved numerical simulations of char particle combustion in isotropic turbulence. *Proceedings* of the Combustion Institute, 2024, 40, 105315.
- Warnecke, J., Korpi-Lagg, M.J., Rheinhard, M., Viviani, M. and Prabhu, A., Small-scale and large-scale dynamos in global convection simulations of solarlike stars. arXiv e-prints, 2024, arXiv:2406.08967.
- Yuvraj, Im, H.G. and Chaudhuri, S., How "mixing" affects propagation and structure of intensely turbulent, lean, hydrogen-air premixed flames. arXiv eprints, 2024, arXiv:2405.17197.

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