

List of publications

H.K. Moffatt

December 30, 2024

[Curriculum Vitae](#)

2024

- 229. MOFFATT, H. K. 2024 The early years of the Journal of Fluid Mechanics. *J.Fluid Mech* **1000**, E2–1 – E2–11. [PDF](#).
- 228. DORMY, E. & MOFFATT, H. K. 2024a Flow induced by rotation of two circular cylinders in a viscous fluid. *Phys. Rev. Fluids* **9**, 044102. [PDF](#).
- 227. DORMY, E. & MOFFATT, H. K. 2024b Prandtl-Batchelor flow in a cylindrical domain. *SIAM J. Appl. Math.* **84** (4), 1658–1667. [PDF](#).
- 226. MOFFATT, H. K. & KIMURA, Y. 2024 Spiral wind-up of vortex sheets. *Geophysical and Astrophysical Fluid Dynamics* pp. 1–14. <https://doi.org/10.1080/03091929.2024.2403085>. [PDF](#).

2023

- 225. MOFFATT, H. K. & KIMURA, Y. 2023 Towards a finite-time singularity of the Navier-Stokes equations. Part 3. Maximal vorticity amplification. *J. Fluid Mech.* **967**, R1. Doi:10.1017/jfm.2023.472. [PDF](#).

2022

- 224. LISICKI, M., ADAMOWICZ, L., HERCYNski, A. & MOFFATT, H. K. 2022 Viscous thread falling on a spinning surface. *Symmetry* **14** (8), 5550. [PDF](#).

2021

- 223. MOFFATT, H. K., GUEST, H. & HUPPERT, H. E. 2021 Spreading or contraction of viscous drops between plates: single, multiple or annular drops. *J. Fluid Mech.* **925**, A26. DOI:<https://doi.org/10.1017/jfm.2021.668>. [PDF](#).
- 222. MOFFATT, H. K. 2021a Extreme events in turbulent flow. *J. Fluid Mech.* **914**, F1–1 – F1–4. [PDF](#).
- 221. MOFFATT, H. K. 2021b Some topological aspects of fluid dynamics. *J. Fluid Mech.* **914**, P1–1 – P1–56. Doi:10.1017/jfm.2020.230.

2019

- 220. MOFFATT, H. K. 2019 Singularities in fluid mechanics. *Phys. Rev. Fluids* **4** (11), 110502. [PDF](#).
- 219. MOFFATT, H. K. & VLADIMIROV, V. A. 2019 Chiral transfer of angular momentum. *Phys. Rev. Fluids* **4** (10), 104102. <https://link.aps.org/doi/10.1103/PhysRevFluids.4.104102>. [PDF](#).

218. MOFFATT, H. K. & KIMURA, Y. 2019*b* Towards a finite-time singularity of the Navier-Stokes equations. Part 2. Vortex reconnection and singularity evasion. *J.Fluid Mech.* **870**, R1. <https://doi.org/10.1017/jfm.2019.263> (See also CORRIGENDUM, JFM, 887, 25 MAR. 2020, doi: 10.1017/jfm.2020.57). [PDF](#).
217. MOFFATT, H. K. & KIMURA, Y. 2019*a* Towards a finite-time singularity of the Navier-Stokes equations. Part 1. Derivation and analysis of dynamical system. *J. Fluid Mech.* **861**, 930–967. [PDF](#).
216. MOFFATT, H. K. & DORMY, E. 2019 *Self-Exciting Fluid Dynamos*. Cambridge University Press. Cambridge Texts in Applied Mathematics, 520+xviii pp.
- 2018
215. MIZERSKI, K. A. & MOFFATT, H. K. 2018 Dynamo generation of a magnetic field by decaying Lehnert waves in a highly conducting plasma. *Geophys. Astrophys. Fluid Dyn.* **112**, 165–174. [PDF](#).
214. KIMURA, Y. & MOFFATT, H. K. 2018*a* Scaling properties towards vortex reconnection under the Biot-Savart law. *Fluid Dyn. Res.* **50**, 011409. [PDF](#).
213. KIMURA, Y. & MOFFATT, H. K. 2018*b* A tent model of vortex reconnection under Biot-Savart evolution. *J. Fluid Mech.* **834**, R1. Doi=10.1017/jfm.2017.769. [PDF](#).
212. MOFFATT, H. K. 2018 Helicity. *Comptes Rendus Mécanique* **346** (3), 165–169. <https://doi.org/10.1016/j.crme.2017.12.002>. [PDF](#).
- 2017
211. MOFFATT, H. K. & MIZERSKI, K. 2017 Pinch dynamics in a low- β plasma. *Fluid Dyn. Res.* **50** (1), 011401. [PDF](#).
210. ILIN, K. I., MOFFATT, H. K. & VLADIMIROV, V. A. 2017 Dynamics of a rolling robot. *Proc. Nat. Acad. Sci.* **114** (49), 12858–12863. [PDF](#).
209. MOFFATT, H. K. 2017*d* Helicity, invariant even in a viscous fluid. *Science* **357** (6350), 448–449. [PDF](#).
208. MOFFATT, H. K. 2017*c* The early years of the *Journal of Fluid Mechanics*. Style and international impact. *Comptes Rendus Mécanique* **345** (7), 498–504. [PDF](#).
207. MOFFATT, H. K. 2017*b* CORRIGENDUM – The degree of knottedness of tangled vortex lines. *J. Fluid Mech.* **830**, 821–822. [PDF](#).
206. MOFFATT, H. K. 2017*a* Clerk Maxwell and the complex behaviour of an object released from rest in a fluid. *Newsletter of the James Clerk Maxwell Foundation* (9), 1–2. [PDF](#).
- 2016
205. MOFFATT, H. K. 2016*b* Helicity and celestial magnetism. *Proc.Roy.Soc.A* **472** (2190), 20160183. [PDF](#).
204. MOFFATT, H. K., GOLDSTEIN, R. E. & PESCI, A. I. 2016 Soap-film dynamics and topological transitions under continuous deformation. *Phys. Rev. Fluids* **1** (6), 060503. [PDF](#).
203. MOFFATT, H. K. 2016*a* Book Review – Singularities: Formation, Structure, and Propagation. Eggers J. & Fontelos M.A. Cambridge Texts in Applied Mathematics, Cambridge University Press, 2015. Paperback, 453+ xvi pp. isbn 9781107485495.£39.99. *J. Fluid Mech.* **804**, 749–750.
- 2015
202. LYNDEN-BELL, D. & MOFFATT, H. K. 2015 Flashpoint. *Mon. Not. R. Astron. Soc.* **452**, 902–909. [PDF](#).

201. MOFFATT, H. K. 2015a Fluid Dynamics. In *The Princeton Companion to Applied Mathematics*, pp. 467–476. Princeton University Press.
200. MOFFATT, H. K. 2015b Magnetic relaxation and the Taylor conjecture. *J. Plasma Phys.* **81**, 905810608. [PDF](#). doi:10.1017/S0022377815001269
199. MOFFATT, H. K. 2015c The Navier-Stokes equations. In *The Princeton Companion to Applied Mathematics*, pp. 162–163. Princeton University Press.
198. PESCI, A. I., GOLDSTEIN, R., ALEXANDER, G. & MOFFATT, H. K. 2015 Instability of a Möbius strip minimal surface and a link with systolic geometry. *Phys. Rev. Lett.* **114**, 127801. [PDF](#).
- 2014
197. MOFFATT, H. K. 2014a Helicity and singular structures in fluid dynamics. *Proc. Nat. Acad. Sci.* **111**, 3663–3670. [PDF](#).
196. MOFFATT, H. K. 2014b Note on the triad interactions of homogeneous turbulence. *J. Fluid Mech.* **741**, R3. [PDF](#).
195. MOFFATT, H. K. 2014c The fluid dynamics of James Clerk Maxwell. In *James Clerk Maxwell: Perspectives on his Life and Work* (ed. R. Flood, M. McCartney & A. Whitaker), pp. 223–230. Oxford University Press. [PDF](#).
194. GOLDSTEIN, R. E., HUPPERT, H. E., MOFFATT, H. K. & PESCI, A. I. 2014a Instability of a gravity current within a soap-film. *J. Fluid Mech.* **753**, R1. [PDF](#).
193. GOLDSTEIN, R. E., MCTAVISH, J., MOFFATT, H. K. & PESCI, A. I. 2014b Boundary singularities produced by the motion of soap films. *Proc. Natl. Acad. Sci.* **111**, 8339–8344. [PDF](#).
192. KIMURA, Y. & MOFFATT, H. K. 2014 Reconnection of skewed vortices. *J. Fluid Mech* **751**, 329–345. [PDF](#).
- 2013
191. ELIMELECH, Y., KOLOMENSKIY, D., DALZIEL, S. B. & MOFFATT, H. K. 2013 Evolution of the leading-edge vortex over an accelerating rotating wing. In *Moffatt et al. (2013)*, pp. 233–242. [PDF](#).
190. MOFFATT, H. K., BAJER, K. & KIMURA, Y. (ed.) 2013 *Topological Fluid Dynamics: Theory and Applications. Procedia IUTAM 7*. Elsevier, Proceedings of the IUTAM Symposium, Isaac Newton Institute for Mathematical Sciences, 23–27 July 2012, Cambridge, UK. [URL](#)
189. SCHNEIDER, K., KOLOMENSKIY, D., ENGELS, T., MOFFATT, H. K. & FARGE, M. 2013 Numerical simulations of the clap-fling-sweep mechanism of hovering insects. In *Mining Smartness from Nature* (ed. P. Vincenzini, L. Schenato, N. C. Seeman & F. C. Simmel), *Advances in Science and Technology*, vol. 84, pp. 57–58. Trans Tech Publications. CIMTEC 2012 - 4th International Conference on Smart Materials, Structures and Systems, June 10-14, 2012, Montecatini Terme, Italy. [PDF](#). [URL](#)
188. FARGE, M., MOFFATT, H. K. & SCHNEIDER, K. 2013 Fundamental Problems of Turbulence, 50 years after the Marseille 1961 Conference, Centre International de Rencontres Mathématiques (CIRM), Marseille, 28-30 September 2011. *J. Turbul.* **14**, 39–42. [PDF](#). [URL](#)
187. BAJER, K. & MOFFATT, H. K. 2013 Magnetic relaxation, current sheets, and structure formation in an extremely tenuous fluid medium. *Astrophys. J.* **779**, 169–182. [PDF](#).
186. MOFFATT, P. G. & MOFFATT, H. K. 2013 Giffen goods and their reflexion property. *The Manchester School* <https://doi.org/10.1111/manc.12003>. [PDF](#).
185. MOFFATT, H. K. 2013b Three coins in a fountain. *J. Fluid Mech.* **720**, 1–4. Focus on Fluids. [PDF](#).

184. MOFFATT, H. K. 2013a Relaxation to steady vortical flows, and knots in the quark-gluon plasma. In *Mechanics Down Under* (ed. J. P. Denier & M. D. Finn), pp. 155–164. Springer. Proceedings of the XXII International Congress of Theoretical and Applied Mechanics (ICTAM2008), 24-29 August 2008, Adelaide, Australia. [PDF](#).

2012

183. MIZERSKI, K. A., BAJER, K. & MOFFATT, H. K. 2012 The mean electromotive force generated by elliptic instability. *J. Fluid Mech.* **707**, 111–128. [PDF](#).
182. GOLDSTEIN, R. E., MOFFATT, H. K. & PESCI, A. I. 2012 Topological constraints and their breakdown in dynamical evolution. *Nonlinearity* **25** (10), R85–R98. [PDF](#).
181. MOFFATT, H. K. 2012 Homogeneous turbulence: an introductory review. *J. Turbul.* **13** (39), 1–11. [PDF](#).
180. KOLOMENSKIY, D. & MOFFATT, H. K. 2012 Similarity solutions for unsteady stagnation point flow. *J. Fluid Mech.* **711**, 394–410. [PDF](#).

2011

179. KOLOMENSKIY, D., MOFFATT, H. K., FARGE, M. & SCHNEIDER, K. 2011b Two- and three-dimensional numerical simulations of the clap-fling-sweep of hovering insects. *J. Fluid Struct.* **27** (5-6), 784–791. Special issue: IUTAM Symposium on Bluff Body Wakes and Vortex-Induced Vibrations, Capri, Italy, Jun 22-25, 2010. [PDF](#).
178. KOLOMENSKIY, D., MOFFATT, H. K., FARGE, M. & SCHNEIDER, K. 2011a The Lighthill-Weis-Fogh clap-fling-sweep mechanism revisited. *J. Fluid Mech.* **676**, 572–606. [PDF](#).
177. MOFFATT, H. K. 2011a A brief introduction to vortex dynamics and turbulence. In [Moffatt & Shuckburgh \(2011\)](#), pp. 1–27. [PDF](#).
176. MOFFATT, H. K. & SHUCKBURGH, E. (ed.) 2011 *Environmental Hazards: The Fluid Dynamics and Geophysics of Extreme Events*. World Scientific. [URL](#)
175. MOFFATT, H. K. 2011b George Keith Batchelor and the post-war renaissance of research in turbulence. In [Davidson et al. \(2011\)](#), pp. 276–304. [PDF](#).
174. DAVIDSON, P. A., KANEDA, Y., MOFFATT, H. K. & SREENIVASAN, K. R. (ed.) 2011 *A Voyage Through Turbulence*. Cambridge University Press. [PDF](#). [URL](#). See also [video recordings](#) of lectures given at the Symposium on Turbulence - the Historical Perspective, Warsaw 2011.

2010

173. MOFFATT, H. K. 2010a George Batchelor: a personal tribute, ten years on. *J. Fluid Mech.* **663**, 2–7. [PDF](#).
172. GOLDSTEIN, R. E., MOFFATT, H. K., PESCI, A. I. & RICCA, R. L. 2010 Soap-film Möbius strip changes topology with a twist singularity. *Proc. Natl. Acad. Sci.* **107** (51), 21979–21984. [PDF](#).
171. MOFFATT, H. K. 2010b Note on the suppression of transient shear-flow instability by a spanwise magnetic field. *J. Eng. Math.* **68** (3-4), 263–268. [PDF](#).
170. MOFFATT, H. K. 2010c The persistence of spin. In *150 Years of Vortex Dynamics* (ed. H. Aref). Springer. Proceedings of the IUTAM Symposium, Technical University of Denmark, October 12–16, 2008. [PDF](#).
169. KOLOMENSKIY, D., MOFFATT, H. K., FARGE, M. & SCHNEIDER, K. 2010 Vorticity generation during the clap-fling-sweep of some hovering insects. *Theor. Comp. Fluid Dyn.* **24** (1-4, SI), 209–215. [PDF](#).

2009

168. MOFFATT, H. K. 2009 Singularities in fluid dynamics and their resolution. In *Lectures on Topological Fluid Mechanics* (ed. R. L. Ricca, M. Berger, L. H. Kauffman, B. Khesin, K. H. Moffatt & D. W. Summers), *Lecture Notes in Mathematics*, vol. 1973, pp. 157–166. Springer. [PDF](#).

2008

167. MOFFATT, H. K. 2008*b* Vortex dynamics: The legacy of Helmholtz and Kelvin. In *Hamiltonian Dynamics, Vortex Structures, Turbulence* (ed. A. V. Borisov, V. V. Kozlov, I. S. Mamaev & M. A. Sokolovskiy), pp. 1–10. Springer. Proceedings of the IUTAM Symposium, Moscow, 25–30 August 2006. [PDF](#).
166. MOFFATT, H. K. & TOKIEDA, T. 2008 Celt reversals: a prototype of chiral dynamics. *Proc. Roy. Soc. Edinb. A* **138** (2), 361–368. [PDF](#).
165. FUKUMOTO, Y. & MOFFATT, H. K. 2008 Kinematic variational principle for motion of vortex rings. *Physica D* **237** (14-17), 2210–2217. [PDF](#).
164. MOFFATT, H. K. 2008*a* Magnetostrophic turbulence and the geodynamo. In *Computational Physics and New Perspectives in Turbulence* (ed. Y. Kaneda), pp. 339–346. Springer. Proceedings of the IUTAM Symposium, Nagoya University, Japan, 11-14 September 2006. [PDF](#).

2007

163. MOFFATT, H. K. 2007*a* The birth and adolescence of MHD turbulence. In *Magnetohydrodynamics: Historical Evolution and Trends* (ed. S. Molokov, R. Moreau & H. K. Moffatt), pp. 213–222. Springer. International Workshop on the History of Magnetohydrodynamics, Coventry University, UK, May 26-28, 2004. [PDF](#).
162. MOFFATT, H. K. 2007*c* Professor D. Howell Peregrine - 30 December 1938 - 20 March 2007. Obituary. *J. Fluid Mech.* **580**, 1–2. [PDF](#).
161. MOFFATT, H. K. 2007*b* Comment on "Natural classification of knots" by A. Flammini & A. Stasiak. *Proc. Roy. Soc. A* **463**. [PDF](#).

2006

160. MOFFATT, H. K. 2006*a* Corner flow: a classical problem with a new twist. *Nagare* **25** (6), 521–524. [PDF](#).
159. HATTORI, Y. & MOFFATT, H. K. 2006 Evolution of toroidal magnetic eddies in an ideal fluid. *J. Fluid Mech.* **558**, 253–279. [PDF](#).
158. BRANICKI, M. & MOFFATT, H. K. 2006 Evolving eddy structures in oscillatory Stokes flows in domains with sharp corners. *J. Fluid Mech.* **551**, 63–92. [PDF](#).
157. BRANICKI, M., MOFFATT, H. K. & SHIMOMURA, Y. 2006 Dynamics of an axisymmetric body spinning on a horizontal surface. III. Geometry of steady state structures for convex bodies. *Proc. Roy. Soc. A* **462** (2066), 371–390. [PDF](#).
156. MOFFATT, H. K. 2006*b* Swoop and swerve. Review of "Spinning Flight: Dynamics of Frisbees, Boomerangs, Samaras and Skipping Stones" by Ralph D. Lorenz. Springer: 2006. *Nature* **444** (7121), 820. Book review. [PDF](#).

2005

155. BAZANT, M. Z. & MOFFATT, H. K. 2005 Exact solutions of the Navier-Stokes equations having steady vortex structures. *J. Fluid Mech.* **541**, 55–64. [PDF](#).
154. HATTORI, Y. & MOFFATT, H. K. 2005 Reconnexion of vortex and magnetic tubes subject to an imposed strain: An approach by perturbation expansion. *Fluid Dyn. Res.* **36** (4-6), 333–356. [PDF](#).

153. MOFFATT, H. K. 2005 Stokes and Kelvin a century later: an essay. In *EUROMECH Newsletter*, vol. 28, pp. 17–25. EUROMECH. [PDF](#).
152. SHIMOMURA, Y., BRANICKI, M. & MOFFATT, H. K. 2005 Dynamics of an axisymmetric body spinning on a horizontal surface. II. self-induced jumping. *Proc. Roy. Soc. A* **461** (2058), 1753–1774. [PDF](#).
- 2004
151. MOFFATT, H. K. 2004 A lifelong affair with fluid dynamics. In *One Hundred Reasons to be a Scientist* (ed. K. R. Sreenivasan), pp. 162–163. ICTP. [PDF](#).
150. HAHNE, F., MOFFATT, H. K. & TUROK, N. 2004 AIMS for Africa. *TWAS Newsletter* **16** (3/4), 65–70. [PDF](#).
149. MOFFATT, H. K., SHIMOMURA, Y. & BRANICKI, M. 2004 Dynamics of an axisymmetric body spinning on a horizontal surface. I. Stability and the gyroscopic approximation. *Proc. Roy. Soc. A* **460** (2052), 3643–3672. [PDF](#).
- 2003
148. VLADIMIROV, V. A., MOFFATT, H. K., DAVIDSON, P. A. & ILIN, K. I. 2003 On the stability of a rigid body in a magnetostatic equilibrium. *Eur. J. Mech. B Fluids* **22** (5), 511–523. [PDF](#).
- 2002
147. MOFFATT, H. K. 2002*a* George Keith Batchelor. 8 March 1920 – 30 March 2000. *Biogr. Mem. Fellows R. Soc.* **48**, 25–41. [PDF](#).
146. MOFFATT, H. K. & SELLIER, A. 2002 Migration of an insulating particle under the action of uniform ambient electric and magnetic fields. Part 1. General theory. *J. Fluid Mech.* **464**, 279–286. [PDF](#).
145. MOFFATT, H. K. & HUNT, R. E. 2002 A model for magnetic reconnection. In [Bajer & Moffatt \(2002\)](#), pp. 125–138. [PDF](#).
144. BAJER, K. & MOFFATT, H. K. (ed.) 2002 *Tubes, Sheets and Singularities in Fluid Dynamics*. Kluwer, NATO ARW & IUTAM Symposium, Zakopane, Poland, 2-7 September 2001. [URL](#)
143. MOFFATT, H. K. & SHIMOMURA, Y. 2002 Spinning eggs - a paradox resolved - An explanation for an odd egg performance is rolled out in time for Easter. *Nature* **416** (6879), 385–386. [PDF](#).
142. MOFFATT, H. K. 2002*b* G.K. Batchelor and the homogenization of turbulence. *Annu. Rev. Fluid Mech.* **34**, 19–35. [PDF](#).
141. MOFFATT, H. K. 2002*c* Local and global perspectives in fluid dynamics. In *Mechanics for a New Millennium* (ed. H. Aref & J. W. Phillips), pp. 521–540. Kluwer. Proceedings of the 20th International Congress of Theoretical and Applied Mechanics (ICTAM2000), Chicago, Illinois, USA 27 August – 2 September 2000. [PDF](#).
- 2001
140. MOFFATT, H. K. 2001*b* Some remarks on topological fluid mechanics. In *Introduction to the Geometry and Topology of Fluid Flows* (ed. R. L. Ricca), pp. 3–10. Springer. Proceedings of the NATO ASI on Pedagogical Workshop, Cambridge, UK, 11-22 September 2000. [PDF](#).
139. MOFFATT, H. K. 2001*d* The topology of turbulence. In *New Trends in Turbulence*. (Eds. M. Lesieur, A. Yaglom & F. David) Springer, 319–340. (ed. M. Lesieur, Y. Yaglom & F. David), pp. 319–340. Kluwer. NATO ASI, Les Houches Session LXXIV, 31 July - 1 September 2000. [PDF](#).
138. MOFFATT, H. K. 2001*c* The topology of scalar fields in 2D and 3D turbulence. In *Geometry and Statistics of Turbulence* (ed. T. Kambe, T. Nakano & T. Miyauchi), pp. 13–22. Springer. Proceedings of the IUTAM Symposium, Hayama, Japan, Nov 1-5, 1999. [PDF](#).

137. MOFFATT, H. K. 2001a Dynamo theory. In *The Encyclopedia of Astronomy and Astrophysics* (ed. P. Murdin), pp. 666–671. Institute of Physics. [PDF](#).
136. ARNOLD, V. I., BRUCE, J. W., MOFFATT, H. K. & PELZ, R. B. 2001 Topological methods in the physical sciences. *Phil. Trans. R. Soc. Lond. A* **359** (1784), 1341. Discussion Meeting Issue organized by V. I. Arnold, J. W. Bruce, H. K. Moffatt and R. B. Pelz. Preface. [PDF](#).
135. FUKUMOTO, Y. & MOFFATT, H. K. 2001 Motion and expansion of a viscous vortex ring: Elliptical slowing down and diffusive expansion. In *Turbulence Structure and Vortex Dynamics* (ed. J. C. R. Hunt & J. C. Vassilicos), pp. 1–22. Cambridge University Press. Symposium held at the Isaac Newton Institute, Cambridge, UK, 1999. [PDF](#).
- 2000
134. MOFFATT, H. K. 2000d Reflections on magnetohydrodynamics. In [Batchelor *et al.* \(2000\)](#), chap. 7, pp. 347–391. [PDF](#).
133. BATCHELOR, G. K., MOFFATT, H. K. & WORSTER, M. G. (ed.) 2000 *Perspectives in Fluid Dynamics*. Cambridge University Press. [URL](#)
132. MOFFATT, H. K. 2000e Vortex and magneto-dynamics - a topological perspective. In *Mathematical Physics 2000* (ed. A. S. Fokas, A. Grigoryan, T. Kibble & B. Zegarlinski), pp. 170–182. Imperial College Press. [PDF](#).
131. MOFFATT, H. K. 2000b Euler’s disk and its finite-time singularity - Air viscosity makes the rolling speed of a disk go up as its energy goes down. *Nature* **404** (6780), 833–834. [PDF](#).
130. MOFFATT, H. K. 2000a Analytical dynamics - Numismatic gyrations - Reply. *Nature* **408** (6812), 540. [PDF](#).
129. MOFFATT, H. K. 2000c The interaction of skewed vortex pairs: a model for blow-up of the Navier-Stokes equations. *J. Fluid Mech.* **409**, 51–68. [PDF](#).
128. HILLS, C. P. & MOFFATT, H. K. 2000 Rotary honing: a variant of the Taylor paint-scraper problem. *J. Fluid Mech.* **418**, 119–135. [PDF](#).
127. FUKUMOTO, Y. & MOFFATT, H. K. 2000 Motion and expansion of a viscous vortex ring. Part 1. A higher-order asymptotic formula for the velocity. *J. Fluid Mech.* **417**, 1–45. [PDF](#).
- 1999
126. VLADIMIROV, V. A., MOFFATT, H. K. & ILIN, K. I. 1999 On general transformations and variational principles for the magnetohydrodynamics of ideal fluids. Part 4. Generalized isovorticity principle for three-dimensional flows. *J. Fluid Mech.* **390**, 127–150. [PDF](#).
125. MOFFATT, H. K. & MAK, V. 1999 Corner singularities in three-dimensional Stokes flow. In *Non-linear Singularities in Deformation and Flow* (ed. D. Durban & J. R. A. Pearson), pp. 21–26. Springer. Proceedings of the IUTAM Symposium. Haifa, Israel, 17–21 March 1997. [PDF](#).
- 1998
124. MOFFATT, H. K. 1998c Topological dynamics of fluids. In *XI International Congress on Mathematical Physics* (ed. D. Iagolnitzer), pp. 465–473. International Press. XIth Int. Cong. Math. Phys. Unesco-Sorbonne-Paris, 18–23 July 1994. [PDF](#).
123. BAJER, K. & MOFFATT, H. K. 1998 Theory of non-axisymmetric Burgers vortex with arbitrary Reynolds number. In *Dynamics of Slender Vortices* (ed. E. Krause & K. Gersten), pp. 193–202. Kluwer. Proceedings of the IUTAM Symposium, RWTH Aachen, Germany, Aug 31-Sep 03, 1997. [PDF](#).

122. FUKUMOTO, Y. & MOFFATT, H. K. 1998 Motion of a thin vortex ring in a viscous fluid: Higher-order asymptotics. In *Dynamics of Slender Vortices* (ed. E. Krause & K. Gersten), pp. 21–34. Kluwer. Proceedings of the IUTAM Symposium, RWTH Aachen, Germany, Aug 31–sep 03, 1997. [PDF](#).
121. MOFFATT, H. K. 1998a Formation and disruption of concentrated vortices in turbulence. In *Advances in Turbulence VII* (ed. U. Frisch), pp. 327–330. Kluwer. Proceedings of the Seventh European Turbulence Conference, Saint-Jean Cap Ferrat, France, 30 June – 3 July 1998. [PDF](#).
120. MOFFATT, H. K. 1998e James Lighthill (1924–98) - Applied mathematician and fluid dynamicist - Obituary. *Nature* **394** (6695), 728. [PDF](#).
119. MOFFATT, H. K. 1998d Fireball file. *New Sci.* **160** (2156), 54. [URL](#)
118. MOFFATT, H. K. 1998b Knots and fluid dynamics. In *In Ideal Knots* (ed. A. Stasiak, V. Katritch & L. H. Kauffman), *Series on Knots and Everything*, vol. 19, pp. 223–233. World Scientific. [PDF](#).
- 1997
117. VLADIMIROV, V. A., MOFFATT, H. K. & ILIN, K. I. 1997 On general transformations and variational principles for the magnetohydrodynamics of ideal fluids. 3. Stability criteria for axisymmetric flows. *J. Plasma Phys.* **57** (1), 89–120. [PDF](#).
116. BAJER, K. & MOFFATT, H. K. 1997 On the effect of a central vortex on a stretched magnetic flux tube. *J. Fluid Mech.* **339**, 121–142. [PDF](#).
115. DUFFY, B. R. & MOFFATT, H. K. 1997 A similarity solution for viscous source flow on a vertical plane. *Eur. J. Appl. Math.* **8** (1), 37–47. [PDF](#).
114. VLADIMIROV, V. A. & MOFFATT, H. K. 1997 Direct Lyapunov method in nonlinear stability of complex flows. *Nonlinear Anal. Theory Methods Appl.* **30** (1), 563–566. Proceedings of 2nd World Congress of Nonlinear Analysis, Athens, Greece, Jul 10–17, 1996. [PDF](#).
- 1996
113. CHUI, A. Y. K. & MOFFATT, H. K. 1996 Instability of magnetic modons and analogous Euler flows. *J. Plasma Phys.* **56** (3), 677–691. [PDF](#).
112. VLADIMIROV, V. A., MOFFATT, H. K. & ILIN, K. L. 1996 On general transformations and variational principles for the magnetohydrodynamics of ideal fluids. 2. Stability criteria for two-dimensional flows. *J. Fluid Mech.* **329**, 187–205. [PDF](#).
111. LE DIZÈS, S., ROSSI, M. & MOFFATT, H. K. 1996a On the three-dimensional instability of elliptical vortex subjected to stretching. *Phys. Fluids* **8** (8), 2084–2090. [PDF](#).
110. JIMENEZ, J., MOFFATT, H. K. & VASCO, C. 1996 The structure of the vortices in freely decaying two-dimensional turbulence. *J. Fluid Mech.* **313**, 209–222. [PDF](#).
109. LE DIZÈS, S., ROSSI, M. & MOFFATT, H. K. 1996b On the three-dimensional instability of elliptical vortices subjected to stretching. In *Advances in Turbulences VI* (ed. S. Gavrilakis, L. Machiels & P. A. Monkewitz), pp. 355–356. Kluwer. Proceedings of the Sixth European Turbulence Conference, Lausanne, Switzerland, 2–5 July 1996. [PDF](#).
108. MOFFATT, H. K. 1996a Full circle. Review of “Turbulence: The Legacy of A. N. Kolmogorov”. By Uriel Frisch. Cambridge University Press: 1995. Pp. 296. *Nature* **382** (6589), 311–312. Book review. [PDF](#).
107. MOFFATT, H. K. 1996b Pulling the knot tight. *Nature* **384** (6605), 114. [PDF](#).
106. CHUI, A. Y. K. & MOFFATT, H. K. 1995 The energy and helicity of knotted magnetic flux tubes. *Proc. Roy. Soc. A* **451** (1943), 609–629. [PDF](#).

1995

105. DUFFY, B. R. & MOFFATT, H. K. 1995 Flow of a viscous trickle on a slowly varying incline. *Chem. Eng. J. Biochem. Eng. J.* **60** (1-3), 141–146. [PDF](#).
104. MOFFATT, H. K. 1995 Vortices subjected to non-axisymmetric strain - unsteady asymptotic evolution. In *Asymptotic Modelling in Fluid Mechanics* (ed. P. A. Bois, E. Deriat, R. Gatignol & A. Rigolot), *Lecture Notes in Physics*, vol. 442, pp. 29–35. Springer. Symposium in Honour of Professor Jean-Pierre Guiraud, Université Pierre et Marie Curie, Paris, France, 20–22 April 1994. [PDF](#).
103. VLADIMIROV, V. A. & MOFFATT, H. K. 1995 On general transformations and variational-principles for the magnetohydrodynamics of ideal fluids. 1. Fundamental principles. *J. Fluid Mech.* **283**, 125–139. [PDF](#).

1994

102. MOFFATT, H. K. 1994 The Earth's dynamo. In *Cosmical Magnetism* (ed. D. Lynden-Bell), *NATO ASI C*, vol. 422, pp. 1–10. Kluwer. NATO Advanced Research Workshop, Cambridge, UK, 5-9 Jul 1993. [PDF](#).
101. MOFFATT, H. K. & LOPER, D. E. 1994 The magnetostrophic rise of a buoyant parcel in the Earth's core. *Geophys. J. Int.* **117** (2), 394–402. [PDF](#).
100. MOFFATT, H. K., KIDA, S. & OHKITANI, K. 1994 Stretched vortices - the sinews of turbulence; large-Reynolds-number asymptotics. *J. Fluid Mech.* **259**, 241–264. [Corrigendum: *J. Fluid Mech.* (1994) **266**, 371 [PDF](#)]]. [PDF](#).
99. CHUI, A. Y. K. & MOFFATT, H. K. 1994 A thermally driven disc dynamo. In *Solar and Planetary Dynamos* (ed. M. R. E. Proctor, P. C. Matthews & A. M. Rucklidge), pp. 51–58. Cambridge University Press. NATO ASI, Isaac Newton Inst. Math. Sci., Cambridge, England, Sep 20 - Oct 02, 1992. [PDF](#).

1993

98. MOFFATT, H. K. 1993e Cosmic dynamos - from alpha to omega. *Phys. World* **6** (5), 38–42. [PDF](#).
97. BOLCATO, R., ETAY, J., FAUTRELLE, Y. & MOFFATT, H. K. 1993 Electromagnetic billiards. *Phys. Fluids A* **5** (7), 1852–1853. [PDF](#).
96. MOFFATT, H. K. 1993a Fluid mechanics, topology, cusp singularities and related matters. In *Science et Prospective. 1^{er} Séminaire International de la Fédération de Mécanique de Grenoble*, France, 19-21 May 1992. (18 pp.). [PDF](#).
95. MOFFATT, H. K. 1993c Spiral structures in turbulent flow. In *Wavelets, Fractals, and Fourier Transforms* (ed. M. Farge, J. C. R. Hunt & J. C. Vassilicos), *IMA Series* 43, pp. 317–324. Clarendon Press. Proceedings of a conference at Newnham College, Cambridge, England, December 1990. [URL](#)
94. LOPER, D. E. & MOFFATT, H. K. 1993 Small-scale hydromagnetic flow in the Earth's core: Rise of a vertical buoyant plume. *Geophys. Astrophys. Fluid Dyn.* **68** (1-4), 177–202. [PDF](#).
93. MOFFATT, H. K. 1993d Spiral structures in turbulent flow. In *New Approaches and Concepts in Turbulence* (ed. T. Dracos & A. Tsinober), pp. 121–129. Birkhäuser. Proceedings of the Centro Stefano Franscini Colloquium, Monte Verità, Ascona, Switzerland, Sep 09-13, 1991. [PDF](#).
92. MOFFATT, H. K. 1993b Reduction of nonlinearity in turbulent flows - further lines of research and their use in the development of the theory of turbulence. In *New Approaches and Concepts in Turbulence* (ed. T. Dracos & A. Tsinober), pp. 402–404. Birkhäuser. Proceedings of the Centro Stefano Franscini Colloquium, Monte Verità, Ascona, Switzerland, Sep 09-13, 1991. Comment in the discussion of Group III. [URL](#)

1992

91. MOFFATT, H. K. & RICCA, R. L. 1992 Helicity and the Čalugăreanu invariant. *Proc. Roy. Soc. A* **439** (1906), 411–429. [Also published in: *Knots and Applications* (Ed. L.H. Kauffman) World Scientific, 1995]. [PDF](#).
90. MOFFATT, H. K. 1992a The Earth's magnetism - past achievements and future challenges. *IUGG Chronicle* **22**, 1–16. Union Lecture to XXth General Assembly, IUGG, Vienna 1991. [PDF](#).
89. RICCA, R. L. & MOFFATT, H. K. 1992 The helicity of a knotted vortex filament. In *Moffatt et al. (1992)*, pp. 225–236. [PDF](#).
88. CHUI, A. Y. K. & MOFFATT, H. K. 1992 Minimum energy magnetic fields with toroidal topology. In *Moffatt et al. (1992)*, pp. 195–218. [PDF](#).
87. BAJER, K. & MOFFATT, H. K. 1992 Chaos associated with fluid inertia. In *Moffatt et al. (1992)*, pp. 517–534. [PDF](#).
86. MOFFATT, H. K. 1992b Relaxation under topological constraints. In *Moffatt et al. (1992)*, pp. 3–28. [PDF](#).
85. MOFFATT, H. K., ZASLAVSKY, G. M., COMTE, P. & TABOR, M. (ed.) 1992 *Topological Aspects of the Dynamics of Fluids and Plasmas, NATO ASI E*, vol. 218. Kluwer, Proceedings of the Program of the Institute for Theoretical Physics, UCSB (Aug-Dec 1991) and of the NATO ARW (1-5 1991), University of California, Santa Barbara, USA. [PDF](#).
84. JEONG, J. T. & MOFFATT, H. K. 1992 Free-surface cusps associated with flow at low Reynolds-number. *J. Fluid Mech.* **241**, 1–22. [PDF](#).
83. MOFFATT, H. K. & TSINOBER, A. 1992 Helicity in laminar and turbulent-flow. *Annu. Rev. Fluid Mech.* **24**, 281–312. [PDF](#).

1991

82. MOFFATT, H. K. & RICCA, R. L. 1991 Interpretation of invariants of the Betchov-da Rios equations and of the Euler equations. In *Global Geometry of Turbulence: Impact of Nonlinear Dynamics* (ed. J. Jimenez), *NATO ASI B*, vol. 268, pp. 257–264. Plenum Press. NATO Advanced Research Workshop, Rota, Spain, Jul 08-14, 1990. [PDF](#).
81. MOFFATT, H. K. 1991 Electromagnetic stirring. *Phys. Fluids A* **3** (5), 1336–1343. International Symp. on Fluid Mechanics of Stirring and Mixing, Univ. Calif. San Diego, La Jolla, CA, Aug 20-24, 1990. [PDF](#).

1990

80. MOFFATT, H. K. 1990e Structure and stability of solutions of the euler equations - a Lagrangian approach. *Phil. Trans. R. Soc. Lond. A* **333** (1631), 321–342. [PDF](#).
79. MOFFATT, H. K. 1990a The energy-spectrum of knots and links. *Nature* **347** (6291), 367–369. [PDF](#). See also *News and Views*, p. 332. [PDF](#).
78. BAJER, K. & MOFFATT, H. K. 1990a Current-sheet formation in relaxing plasmas - inhibiting action of α -effect. *Tech. Rep.*. Culham Laboratory, UK. [PDF](#).
77. MOFFATT, H. K. 1990d On the behavior of a suspension of conducting particles subjected to a time-periodic magnetic-field. *J. Fluid Mech.* **218**, 509–529. [PDF](#).
76. MOFFATT, H. K. (ed.) 1990f *Journal of Fluid Mechanics G.K. Batchelor Anniversary Issue*. (*J. Fluid Mech.* **212**; 691 plus x pp.). [PDF](#).
75. MOFFATT, H. K. 1990c KAM theory. *Bull. London Math. Soc.* **22** (1), 71–73. Chapter in the "Obituary of Andrei Nikolaevich Kolmogorov (1903-1987) - A tribute to his memory organised by David Kendall". [PDF](#).

74. CHILDRESS, S., COLLET, P., FRISCH, U., GILBERT, A. D., MOFFATT, H. K. & ZASLAVSKY, G. M. 1990 Report on “Workshop on Small-diffusivity Dynamos and Dynamical Systems” held at Observatoire de Nice, 25-30 June 1989. *Geophys. Astrophys. Fluid Dyn.* **52** (4), 263–270. [PDF](#).
73. BAJER, K., MOFFATT, H. K. & NEX, F. H. 1990 Steady confined stokes flows with chaotic streamlines. In [Moffatt & Tsinober \(1990\)](#), pp. 459–466. [PDF](#).
72. MOFFATT, H. K. 1990*g* The topological (as opposed to the analytical) approach to fluid and plasma flow problems. In [Moffatt & Tsinober \(1990\)](#), pp. 1–10. [PDF](#).
71. MOFFATT, H. K. & TSINOBER, A. (ed.) 1990 *Topological Fluid Mechanics*. Cambridge University Press, Proceedings of the IUTAM Symposium, Cambridge, UK, 13–18 August, 1989. [PDF](#).
70. BAJER, K. & MOFFATT, H. K. 1990*b* On a class of steady confined Stokes flows with chaotic streamlines. *J. Fluid Mech.* **212**, 337–363. [PDF](#).
69. MOFFATT, H. K. 1990*b* Fixed points of turbulent dynamical systems and suppression of non-linearity. Comment 1. In *Whither Turbulence? Turbulence at the Crossroads* (ed. J. L. Lumley), *Lecture Notes in Physics*, vol. 357, pp. 250–257. Springer. Comment in the discussion. Proceedings of a Workshop Held at Cornell University, Ithaca, NY, March 22–24, 1989. [PDF](#).
- 1989
68. MOFFATT, H. K. 1989*a* Astrophysical magnetism - stretch, twist and fold. *Nature* **341** (6240), 285–286. [PDF](#).
67. MOFFATT, H. K. 1989*c* On the existence, structure and stability of mhd equilibrium states. In *Turbulence and Nonlinear Dynamics in MHD Flows* (ed. M. Meneguzzi, A. Pouquet & P. L. Sulem), pp. 185–195. Elsevier. Proceedings of the workshop, Cargèse, France, July 4-8, 1988. [PDF](#).
66. MOFFATT, H. K. 1989*b* Liquid metal MHD and the geodynamo. In *In Liquid Metal Magnetohydrodynamics* (ed. J. Lielpeteris & R. J. Moreau), pp. 403–412. Kluwer. [PDF](#).
65. ETAY, J., MESTEL, A. J. & MOFFATT, H. K. 1989 Deflection of a stream of liquid metal by means of an alternating magnetic field. In *In Liquid Metal Magnetohydrodynamics* (ed. J. Lielpeteris & R. J. Moreau), pp. 266–271. Kluwer. [PDF](#).
- 1988
64. ETAY, J., MESTEL, A. J. & MOFFATT, H. K. 1988 Deflection of a stream of liquid-metal by means of an alternating magnetic-field. *J. Fluid Mech.* **194**, 309–331. [PDF](#).
63. BRANOVER, H., MOFFATT, H. K., MOND, M., PIERSON, E. S., SULEM, P. S. & YAKHOT, A. 1988 Magnetohydrodynamic flow and turbulence - a report on the 5th Beer-Sheva seminar. *J. Fluid Mech.* **188**, 87–106. Conference report. [PDF](#).
62. MOFFATT, H. K. 1988*b* A topological approach to problems of vortex dynamics and turbulence. In *Current Trends in Turbulence Research*, pp. 141–152. AIAA. Proceedings of the Fifth Beer-Sheva International Seminar on Magnetohydrodynamics Flow and Turbulence, Ben-Gurion University of Negev, Beer-Sheva, Israel, 2-6 March 1987. [PDF](#).
61. MOFFATT, H. K. 1988*a* Generalised vortex rings with and without swirl. *Fluid Dyn. Res.* **3**, 22–30. [PDF](#).
- 1987
60. MOFFATT, H. K. 1987*b* On the existence of Euler flows that are topologically accessible from a given flow. *Revista Brasileira de Ciências Mecânicas* **IX** (2), 93–101. [PDF](#).

59. MOFFATT, H. K. 1987*a* Geophysical and astrophysical turbulence. In *Advances in Turbulence* (ed. G. Comte-Bellot & J. Mathieu), pp. 228–244. Springer. Proceedings of the First European Turbulence Conference, Lyon, France, 1-4 July 1986. [PDF](#).
- 1986
58. MOFFATT, H. K. 1986*b* On the existence of localized rotational disturbances which propagate without change of structure in an inviscid fluid. *J. Fluid Mech.* **173**, 289–302. [PDF](#).
57. MOFFATT, H. K. 1986*a* Magnetostatic equilibria and analogous Euler flows of arbitrarily complex topology. 2. Stability considerations. *J. Fluid Mech.* **166**, 359–378. [PDF](#).
- 1985
56. MOFFATT, H. K. 1985*b* John Arthur Shercliff 1927–1983. *Biogr. Mem. Fellows R. Soc.* **31**, 523–541. [PDF](#).
55. MOFFATT, H. K. 1985*c* Magnetostatic equilibria and analogous Euler flows of arbitrarily complex topology. 1. Fundamentals. *J. Fluid Mech.* **159**, 359–378. [PDF](#).
54. MOFFATT, H. K. 1985*a* Aspects of dynamo theory. In *Solar System Magnetic Fields* (ed. E. R. Priest), pp. 172–189. Reidel. [PDF](#).
53. WOOD, W. P. & MOFFATT, H. K. 1985 Large and small-scale motions in kinematic dynamos. *Geophys. Astrophys. Fluid Dyn.* **32** (2), 135–161. [PDF](#).
52. MOFFATT, H. K. & PROCTOR, M. R. E. 1985 Topological constraints associated with fast dynamo action. *J. Fluid Mech.* **154**, 493–507. [PDF](#).
- 1984
51. MOFFATT, H. K. 1984*b* Simple topological aspects of turbulent vorticity dynamics. In *Turbulence and Chaotic Phenomena in Fluids* (ed. T. Tatsumi), pp. 223–230. Elsevier. Proc. IUTAM Symposium, Kyoto Sept. 1983. [PDF](#).
50. MOFFATT, H. K. 1984*a* High frequency excitation of liquid metal systems. In [Moffatt & Proctor \(1984\)](#), pp. 180–189. Proceedings of an IUTAM Symposium, Trinity College, Cambridge, UK, 6-10 September 1982. [PDF](#).
49. MOFFATT, H. K. & PROCTOR, R. E. (ed.) 1984 *Metallurgical applications of magnetohydrodynamics*. Metals Society. Proceedings of an IUTAM Symposium, Trinity College, Cambridge, UK, 6-10 September 1982. [URL](#)
- 1983
48. MOFFATT, H. K. 1983*b* Transport effects associated with turbulence with particular attention to the influence of helicity. *Rep. Prog. Phys.* **46** (5), 621–664. [PDF](#).
47. MOFFATT, H. K. 1983*a* Induction in turbulent conductors. In *Stellar and Planetary Magnetism* (ed. A. M. Soward), pp. 3–16. Gordon and Breach. [PDF](#).
46. MOFFATT, H. K. & KAMKAR, H. 1983 On the time-scale associated with flux expulsion. In *Stellar and Planetary Magnetism* (ed. A. Soward), pp. 91–98. Gordon and Breach. [PDF](#).
- 1982
45. MOFFATT, H. K. & PROCTOR, M. R. E. 1982 The role of the helicity spectrum function in turbulent dynamo theory. *Geophys. Astrophys. Fluid Dyn.* **21** (3-4), 265–283. [PDF](#).
44. LUNGU, E. M. & MOFFATT, H. K. 1982 The effect of wall conductance on heat diffusion in duct flow. *J. Eng. Math.* **16** (2), 121–136. [PDF](#).
43. KAMKAR, H. & MOFFATT, H. K. 1982 A dynamic runaway effect associated with flux expulsion in magneto-hydrodynamic channel flow. *J. Fluid Mech.* **121**, 107–122. [PDF](#).

42. HOOPER, A., DUFFY, B. R. & MOFFATT, H. K. 1982 Flow of fluid of nonuniform viscosity in converging and diverging channels. *J. Fluid Mech.* **117**, 283–304. [PDF](#).
41. SNEYD, A. D. & MOFFATT, H. K. 1982 Fluid dynamical aspects of the levitation-melting process. *J. Fluid Mech.* **117**, 45–70. [PDF](#).
- 1981
40. HANCOCK, C., LEWIS, E. & MOFFATT, H. K. 1981 Effects of inertia in forced corner flows. *J. Fluid Mech.* **112**, 315–327. [PDF](#).
39. MOFFATT, H. K. 1981 Some developments in the theory of turbulence. *J. Fluid Mech.* **106**, 27–47. [PDF](#).
- 1980
38. MOFFATT, H. K. 1980a The asymptotic behaviour of solutions of the Navier-Stokes equations near sharp corners. In *Approximate Methods for Navier-Stokes Problems* (ed. R. Rautmann), *Lecture Notes in Mathematics*, vol. 771, pp. 371–380. Springer. [PDF](#).
37. MOFFATT, H. K. & DUFFY, B. R. 1980 Local similarity solutions and their limitations. *J. Fluid Mech.* **96** (2), 299–313. [Corrigendum: *J. Fluid Mech.* (1980) **99**, 860 [PDF](#)]. [PDF](#).
36. MOFFATT, H. K. 1980b Rotation of a liquid metal under the action of a rotating magnetic field. In *MHD flows and turbulence II* (ed. H. Branover & A. A. Yakhot), pp. 45–62. Israel University Press. Proceedings of the Bat-Sheva International Seminar, Beersheva, March 28–31, 1978. [PDF](#).
- 1979
35. MOFFATT, H. K. 1979 A self-consistent treatment of simple dynamo systems. *Geophys. Astrophys. Fluid Dyn.* **14**, 147–166. [PDF](#).
- 1978
34. MOFFATT, H. K. 1978b The oxymoronic role of molecular diffusivity in the dynamo process. In *Dynamo Models of Geomagnetism in Geophysical Fluid Dynamics* (ed. W. V. R. Malkus & M. Thayer), p. 145–149. WHOI. Notes on the 1979 Summer Study Program at the Woods Hole Oceanographic Institution - Technical Report WHO1-78-67. [PDF](#). (complete Report: [PDF](#))
33. MOFFATT, H. K. 1978c Some problems in magnetohydrodynamics of liquid metals. *Z. Angew. Math. Mech.* **58** (6), T65–T71. Gesellschaft fuer angewandte Mathematik und Mechanik, Wissenschaftliche Jahrestagung, Lyngby, Denmark, May 31–June 3, 1977. [PDF](#).
32. MOFFATT, H. K. & MOORE, D. W. 1978 Response of Hills spherical vortex to a small axisymmetric disturbance. *J. Fluid Mech.* **87** (4), 749–760. [PDF](#).
31. MOFFATT, H. K. 1978d Topographic coupling at the core-mantle interface. *Geophys. Astrophys. Fluid Dyn.* **9**, 279–288. [PDF](#).
30. MOFFATT, H. K. 1978a *Magnetic Field Generation in Electrically Conducting Fluids*. Cambridge University Press. (353 pp) Cambridge Monographs on Mechanics and Applied Mathematics; **this monograph has now been updated, expanded, and published by CUP (2019) under the title “Self-Exciting Fluid Dynamos”** .
- 1977
29. MOFFATT, H. K. 1977c Six lectures on general fluid dynamics and two on hydromagnetic dynamo theory. In *Fluid Dynamics* (ed. R. Balian & J.-L. Peube), p. 149–233. Gordon and Breach. [PDF](#).
28. MOFFATT, H. K. 1977a Behavior of a viscous film on outer surface of a rotating cylinder. *J. Méc.* **16** (5), 651–673. [PDF](#).

27. MOFFATT, H. K. 1977*b* Hydromagnetic effects near a bumpy core-mantle interface. *Geophys. J. Roy. Astron. Soc.* **49** (1), 271. U. K. Geophysical Assembly 12–15 April 1977 (Abstract). [PDF](#).
- 1976
26. MOFFATT, H. K. 1976*b* Generation of magnetic-fields by fluid motion. *Adv. Appl. Mech.* **16**, 119–181. [PDF](#).
25. MOFFATT, H. K. 1976*a* Dynamo generation of magnetic fields in fluid conductors. *Fluid Dynamics Transactions* **8**, 99–118. [PDF](#).
24. MOFFATT, H. K. & DILLON, R. F. 1976 Correlation between gravitational and geomagnetic-fields caused by interaction of core fluid motion with a bumpy core-mantle interface. *Phys. Earth Planet. Int.* **13** (1), 67–78. [PDF](#).
- 1974
23. MOFFATT, H. K. 1974*a* Appendix to paper “Topological pumping of magnetic flux by three-dimensional con-vection” by E. M. Drobyshevski & V.S. Yuferev. *J. Fluid Mech.* **65**, 41–43. [PDF](#).
22. MOFFATT, H. K. 1974*b* Mean electromotive force generated by turbulence in the limit of perfect conductivity. *J. Fluid Mech.* **65** (1), 1–10. [PDF](#).
- 1973
21. MOFFATT, H. K. 1973 Report on the NATO Advanced Study Institute on magnetohydrodynamic phenomena in rotating fluids. *J. Fluid Mech.* **57**, 625–649. (As editor). [PDF](#).
- 1972
20. MOFFATT, H. K. 1972*a* An approach to a dynamic theory of dynamo action in a rotating conducting fluid. *J. Fluid Mech.* **53** (2), 385–399. [PDF](#).
19. MOFFATT, H. K. 1972*b* Dynamo instability and feedback in a stochastically driven system. In *Statistical Models and Turbulence* (ed. M. Rosenblatt & C. Atta), *Lecture Notes in Physics*, vol. 12, pp. 266–279. Springer. [PDF](#).
- 1970
18. MOFFATT, H. K. 1970*a* Dynamo action associated with random inertial waves in a rotating conducting fluid. *J. Fluid Mech.* **44** (4), 705–719. [PDF](#).
17. MOFFATT, H. K. 1970*b* Turbulent dynamo action at low magnetic Reynolds number. *J. Fluid Mech.* **41** (2), 435–452. [PDF](#).
- 1969
16. KLINE, S. J., MOFFATT, H. K. & MORKOVIN, M. V. 1969 Report on AFOSR-IFP-Stanford conference on computation of turbulent boundary layers. *J. Fluid Mech.* **36** (3), 481–484. [PDF](#).
15. MOFFATT, H. K. 1969 The degree of knottedness of tangled vortex lines. *J. Fluid Mech.* **35** (1), 117–129. [PDF](#).
- 1968
14. MOFFATT, H. K. 1968 Large scale motions in a turbulent boundary layer; waves versus eddies. In *Computation of Turbulent Boundary Layers – 1968* (ed. S. J. Kline, D. E. Coles & E. A. Hirst), p. 495–510. Stanford University. Proceedings of the AFOSR-IFP-Stanford Conference. [PDF](#).
- 1967
13. MOFFATT, H. K. & TOOMRE, J. 1967 Annihilation of a 2-dimensional jet by a transverse magnetic field. *J. Fluid Mech.* **30** (1), 65–82. [PDF](#).

12. MOFFATT, H. K. 1967*b* On suppression of turbulence by a uniform magnetic field. *J. Fluid Mech.* **28** (3), 571–592. [PDF](#).
 11. MOFFATT, H. K. 1967*a* The interaction of turbulence with strong wind shear. In *Atmospheric Turbulence and Radio Wave Propagation* (ed. A. M. Yaglom & V. I. Tatarsky), pp. 139–154. Nauka, Moscow. Proceedings of the URSI - IUGG - International Colloquium, Moscow, June 1965. [PDF](#).
- 1966
10. MOFFATT, H. K. 1966*b* Review: Magnetohydrodynamics with Hydrodynamics, Vol. 1. by P. C. Kendall and C. Plumpton. Pergamon, 1964. 181 pp. 17s. 6d. *J. Fluid Mech.* **24** (3), 622–624. [PDF](#).
- 1965
9. MOFFATT, H. K. 1965 On fluid flow induced by a rotating magnetic field. *J. Fluid Mech.* **22** (3), 521–528. [Corrigendum: *J. Fluid Mech.* (1973) **58**, 823 [PDF](#)]. [PDF](#).
- 1964
8. MOFFATT, H. 1966*a* Electrically driven steady flows in magnetohydrodynamics. In *Applied Mechanics* (ed. H. Görtler), pp. 946–953. Springer. Proceedings of the Eleventh International Congress of Applied Mechanics Munich (Germany) 1964. [PDF](#).
 7. MOFFATT, H. K. 1964*a* Viscous and resistive eddies near a sharp corner. *J. Fluid Mech.* **18** (1), 1–18. [PDF](#).
 6. MOFFATT, H. K. 1964*b* Viscous eddies near a sharp corner. *Arch. Mech. Stosowanej* **2** (16), 365–372. [PDF](#).
 5. MOFFATT, H. K. & SAFFMAN, P. G. 1964 Comment on “Growth of a weak magnetic field in a turbulent conducting fluid with large magnetic Prandtl number”. *Phys. Fluids* **7** (1), 155. [PDF](#).
- 1963
4. MOFFATT, H. K. 1963 Magnetic eddies in an incompressible viscous fluid of high electrical conductivity. *J. Fluid Mech.* **17** (2), 225–239. [PDF](#).
- 1962
3. MOFFATT, H. K. 1962*a* Intensification of the Earth’s magnetic field by turbulence in the ionosphere. *J. Geophys. Res.* **67** (8), 3071–3073. [PDF](#).
 2. MOFFATT, H. K. 1962*b* Turbulence in conducting fluids. In *Mécanique de la Turbulence* (ed. A. Favre), *Colloques Internationaux du CNRS*, vol. 108, pp. 395–404. CNRS, Marseille. Proceedings of the CNRS Colloquium, 28 Aug - 2 Sep 1961, Marseille, France. [PDF](#). More on this Colloquium can be found here: [URL](#)
- 1961
1. MOFFATT, K. 1961 The amplification of a weak applied magnetic field by turbulence in fluids of moderate conductivity. *J. Fluid Mech.* **11** (4), 625–635. [PDF](#).