

- by Telstar. J. Geophys. Res. **68**(3), 607–618 (1963). doi:[10.1029/JZ068i003p00607](https://doi.org/10.1029/JZ068i003p00607)
- W.L. Brown, J.D. Gabbe, W. Rosenzweig, Results of the Telstar radiation experiments. Bell Syst. Tech. J. **42**(4), 1505–1560 (1963)
- K. Bullough, Satellite observations of power line harmonic radiation. Space Sci. Rev. **35**(2), 175–183 (1983). doi:[10.1007/BF00242242](https://doi.org/10.1007/BF00242242)
- B. Caner, Prompt world-wide geomagnetic effects of high-latitude nuclear explosions, Master's thesis, The University of British Columbia, Vancouver, BC Canada, 1964. <https://open.library.ubc.ca/cIRcle/collections/ubctheses/831/items/1.0053563>
- D.L. Carpenter, Whistler studies of the plasmapause in the magnetosphere: 1. Temporal variations in the position of the knee and some evidence on plasma motions near the knee. J. Geophys. Res. **71**(3), 693–709 (1966). doi:[10.1029/JZ071i003p00693](https://doi.org/10.1029/JZ071i003p00693)
- D.L. Carpenter, *Very Low Frequency Space Radio Research at Stanford 1950–1990*, 1st edn. (Lulu.com, Stanford, 2015). ISBN 9781329884106
- D. Carpenter, J. Lemaire, The plasmasphere boundary layer. Ann. Geophys. **22**, 4291–4298 (2004)
- M. Casaverde, A. Giesecke, R. Cohen, Effects of the nuclear explosion over Johnston Island observed in Peru on July 9, 1962. J. Geophys. Res. **68**(9), 2603–2611 (1963). doi:[10.1029/JZ068i009p02603](https://doi.org/10.1029/JZ068i009p02603)
- D.M. Chapin, C.S. Fuller, G.L. Pearson, A new silicon *p-n* junction photocell for converting solar radiation into electrical power. J. Appl. Phys. **25**(5), 676–677 (1954). doi:[10.1063/1.1721711](https://doi.org/10.1063/1.1721711)
- N. Christofilos, The Argus experiment. Proc. Natl. Acad. Sci. **45**, 1144–1152 (1959a)
- N.C. Christofilos, The Argus experiment. J. Geophys. Res. **64**(8), 869–875 (1959b). doi:[10.1029/JZ064i008p00869](https://doi.org/10.1029/JZ064i008p00869)
- M.A. Clilverd, C.J. Rodger, N.R. Thomson, J.B. Brundell, T. Ulich, J. Lichtenberger, N. Cobbett, A.B. Collier, F.W. Menk, A. Seppälä, P.T. Verronen, E. Turunen, Remote sensing space weather events: Antarctic-Arctic Radiation-Belt (Dynamic) Deposition-VLF Atmospheric Research Konsortium network. Space Weather **7**(4), S04001 (2009). doi:[10.1029/2008SW000412](https://doi.org/10.1029/2008SW000412)
- M.B. Cohen, N.G. Lehtinen, U.S. Inan, Models of ionospheric VLF absorption of powerful ground based transmitters. Geophys. Res. Lett. **39**(24), L24101 (2012). doi:[10.1029/2012GL054437](https://doi.org/10.1029/2012GL054437)
- S.A. Colgate, The phenomenology of the mass motion of a high altitude nuclear explosion. J. Geophys. Res. **70**(13), 3161–3173 (1965). doi:[10.1029/jz070i013p03161](https://doi.org/10.1029/jz070i013p03161)
- E.E. Conrad, G.A. Gurtman, G. Kweder, M.J. Mandell, W.W. White, Collateral Damage to Satellites from an EMP Attack. Technical report DTRA-IR-10-22, Defense Threat Reduction Agency, Fort Belvoir, Virginia (2010)
- A.L. Cullington, A man-made or artificial aurora. Nature **182**(4646), 1365–1366 (1958). doi:[10.1038/1821365a0](https://doi.org/10.1038/1821365a0)

- A.C. Dickieson, The Telstar experiment. *Bell Syst. Tech. J.* **42**, 739–746 (1963)
- A.C. Durney, H. Elliot, R.J. Hynds, J.J. Quenby, Satellite observations of the energetic particle flux produced by the high-altitude nuclear explosion of July 9, 1962. *Nature* **195**, 1245–1248 (1962). doi:[10.1038/1951245a0](https://doi.org/10.1038/1951245a0)
- A.C. Durney, H. Elliot, R.J. Hynds, J.J. Quenby, The artificial radiation belt produced by the Starfish nuclear explosion. *Proc. R. Soc. Lond. Ser. A, Math. Phys. Sci.* **281**(1384), 565–583 (1964)
- P. Dyal, Particle and field measurements of the starfish diamagnetic cavity. *J. Geophys. Res.* **111**(A12), 12211 (2006). doi:[10.1029/2006JA011827](https://doi.org/10.1029/2006JA011827)
- P.J. Edwards, J.S. Reid, Effects of nuclear explosion starfish prime observed at Hobart, Tasmania, July 9, 1962. *J. Geophys. Res.* **69**(17), 3607–3612 (1964). doi:[10.1029/JZ069i017p03607](https://doi.org/10.1029/JZ069i017p03607)
- H. Elliot, in *Some Cosmic Ray and Radiation Belt Observations Based on Data from the Anton 302 G-M Counter in Ariel I*, ed. by B.M. McCormac (Springer, Dordrecht, 1966), pp. 76–99. doi:[10.1007/978-94-010-3553-8_7](https://doi.org/10.1007/978-94-010-3553-8_7)

- H. Elliot, J.J. Quenby, The Samoan artificial aurora. *Nature* **83**, 810 (1959). doi:[10.1038/183810a0](https://doi.org/10.1038/183810a0)
- J.F. Fennell, H.C. Koons, J.L. Roeder, J.B. Blake, Spacecraft charging: observations and relationship to satellite anomalies, in *Spacecraft Charging Technology, Proceedings of the Seventh International Conference*, ed. by R.A. Harris (European Space Agency ESTEC, Noordwijk, 2001), pp. 279–285
- J.F. Fennell, S.G. Claudepierre, J.B. Blake, T.P. O'Brien, J.H. Clemmons, D.N. Baker, H.E. Spence, G.D. Reeves, Van Allen probes show that the inner radiation zone contains no MeV electrons: ECT/MagEIS data. *Geophys. Res. Lett.* **42**(5), 1283–1289 (2015). doi:[10.1002/2014GL062874](https://doi.org/10.1002/2014GL062874)

- 661–668 (1978). doi:[10.1029/RS013i004p00661](https://doi.org/10.1029/RS013i004p00661)
- J.F. Gabites, D.S. Rowles, Summary of visual observations of the aurora following the nuclear explosion above Johnston island on 9 July 1962. *N.Z. J. Geol. Geophys.* **5**(6), 920–924 (1962). doi:[10.1080/00288306.1962.10420041](https://doi.org/10.1080/00288306.1962.10420041)
- Y.I. Galperin, A.D. Boliunova, Recording of effects of high-altitude thermonuclear explosion of July 9, 1962, on the Cosmos 5 satellite. *Kosm. Issled. (Cosm. Res.)* **2**(5), 763–772 (1964)
- L.A. Gebhard, Evolution of Naval Radio-Electronics and Contributions of the Naval Research Laboratory. Technical report, Naval Research Laboratory, Washington, DC (1979)
- J. Gilbert, J. Kapperman, W. Radasky, E. Savage, The Late Time (E3) High-Altitude Electromagnetic Pulse (HEMP) and Its Impact on the US Power Grid. Technical report Meta-R-321, Metatech Corporation, Goleta, California (2010)
- J.L. Green, S. Boardsen, L. Garcia, W.W.L. Taylor, S.F. Fung, B.W. Reinisch, On the origin of whistler mode radiation in the plasmasphere. *J. Geophys. Res.* **110**(A3), 03201 (2005). doi:[10.1029/2004JA010495](https://doi.org/10.1029/2004JA010495)
- G. Haerendel, A. Valenzuela, O.H. Bauer, M. Ertl, H. Foppl, K.-H. Kaiser, W. Lieb, J. Loidl, F. Melzner, B. Merz, H. Neuss, P. Parigger, E. Rieger, R. Schoning, J. Stocker, E. Wiezorrek, E. Molona, The Li/Ba release experiments of the ion release module. *IEEE Trans. Geosci. Remote Sens.* **GE-23**(3), 253–258 (1985). doi:[10.1109/TGRS.1985.289523](https://doi.org/10.1109/TGRS.1985.289523)
- D. Hambling, US Air Force wants to plasma bomb the sky using tiny satellites. *New Sci.* (August 20, 2016)
- J.B. Harold, A.B. Hassam, Two ion fluid numerical investigations of solar wind gas releases. *J. Geophys. Res.* **99**(A10), 19325–19340 (1994). doi:[10.1029/94JA00790](https://doi.org/10.1029/94JA00790)
- A.B. Hassam, J.D. Huba, Structuring of the AMPTE magnetotail barium releases. *Geophys. Res. Lett.* **14**(1), 60–63 (1987). doi:[10.1029/GL014i001p00060](https://doi.org/10.1029/GL014i001p00060)
- R.A. Helliwell, *Whistlers and Related Ionospheric Phenomena*, 1st edn. (Stanford University Press, Stanford, 1965). ISBN 0486445720
- R.A. Helliwell, VLF wave stimulation experiments in the magnetosphere from Siple Station, Antarctica. *Rev. Geophys.* **26**(3), 551 (1988). doi:[10.1029/RG026i003p00551](https://doi.org/10.1029/RG026i003p00551)
- R. Helliwell, E. Gehrels, Observations of magneto-ionic duct propagation using man-made signals of very low frequency. *Proc. Inst. Radio Eng.* **46**(4), 785–787 (1958)
- R.A. Helliwell, J.P. Katsufakis, M.L. Trimpi, Whistler-induced amplitude perturbation in VLF propagation. *J. Geophys. Res.* **78**(22), 4679–4688 (1973). doi:[10.1029/JA078i022p04679](https://doi.org/10.1029/JA078i022p04679)

- J.A. Lawrie, V.B. Gerard, P.J. Gill, Magnetic effects resulting from the Johnston island high altitude nuclear explosions. *N.Z. J. Geol. Geophys.* **4**(2), 109–124 (1961). doi:[10.1080/00288306.1961.10423131](https://doi.org/10.1080/00288306.1961.10423131)
- J. Leiphart, R. Zeek, L. Bearce, E. Toth, Penetration of the ionosphere by very-low-frequency radio signals-interim results of the LOFTI I experiment. *Proc. IRE* **50**(1), 6–17 (1962). doi:[10.1109/JRPROC.1962.288269](https://doi.org/10.1109/JRPROC.1962.288269)
- X. Li, R.S. Selesnick, D.N. Baker, A.N. Jaynes, S.G. Kanekal, Q. Schiller, L. Blum, J. Fennell, J.B. Blake, Upper limit on the inner radiation belt MeV electron intensity. *J. Geophys. Res.* **120**(2), 1215–1228 (2015). doi:[10.1002/2014JA020777](https://doi.org/10.1002/2014JA020777)
- C.L. Longmire, Justification and Verification of High-Altitude EMP Theory: Part I. Technical report Technical Note 368, Mission Research Corporation, Santa Barbara, California (1986)
- J.P. Luetze, C.G. Park, R.A. Helliwell, The control of the magnetosphere by power line radiation. *J. Geophys. Res.* **84**(A6), 2657–2660 (1979). doi:[10.1029/JA084iA06p02657](https://doi.org/10.1029/JA084iA06p02657)
- R. Lüst, in *Barium Cloud Experiments in the Upper Atmosphere*, ed. by J.A.M. Bleeker, J. Geiss, M.C.E. Huber (Springer, Dordrecht, 2001), pp. 179–187. doi:[10.1007/978-94-010-0320-9_6](https://doi.org/10.1007/978-94-010-0320-9_6)
- H. Maeda, Geomagnetic disturbances due to nuclear explosion. *J. Geophys. Res.* **64**(7), 863–864 (1959). doi:[10.1029/JZ064i007p00863](https://doi.org/10.1029/JZ064i007p00863)
- B.H. Mauk, N.J. Fox, S.G. Kanekal, R.L. Kessel, D.G. Sibeck, A. Ukhorskiy, Science objectives and rationale for the Radiation Belt Storm Probes mission. *Space Sci. Rev.* **179**(1–4), 3–27 (2013). doi:[10.1007/s11214-012-9908-y](https://doi.org/10.1007/s11214-012-9908-y)
- J.S. Mayo, H. Mann, F.J. Witt, D.S. Peck, H.K. Gummel, W.L. Brown, The command system malfunction. *Bell Syst. Tech. J.* **42**, 1631–1657 (1963)
- C.E. McIlwain, Coordinates for mapping the distribution of magnetically trapped particles. *J. Geophys. Res.* **66**(11), 3681–3691 (1961). doi:[10.1029/JZ066i011p03681](https://doi.org/10.1029/JZ066i011p03681)
- C.E. McIlwain, The radiation belts, natural and artificial. *Science* **142**(3590), 355–361 (1963). doi:[10.1126/science.142.3590.355](https://doi.org/10.1126/science.142.3590.355)

- B.T. Tsurutani, R.M. Thorne, A skeptic's view of PLR effects in the magnetosphere. *Adv. Space Res.* **1**(2), 439–444 (1981). doi:[10.1016/0273-1177\(81\)90318-5](https://doi.org/10.1016/0273-1177(81)90318-5)
- B.T. Tsurutani, E.J. Smith, S.R. Church, R.M. Thorne, R.E. Holzer, in *Does ELF Chorus Show Evidence of Power Line Stimulation?* ed. by P.J. Palmadesso, K. Papadopoulos (Springer, Dordrecht, 1979), pp. 51–54. doi:[10.1007/978-94-009-9500-0_5](https://doi.org/10.1007/978-94-009-9500-0_5)
- R.R. Unterberger, P.E. Byerly, Magnetic effects of a high-altitude nuclear explosion. *J. Geophys. Res.* **67**(12), 4929–4932 (1962). doi:[10.1029/JZ067i012p04929](https://doi.org/10.1029/JZ067i012p04929)
- A.L. Vampola, Electron precipitation in the vicinity of a VLF transmitter. *J. Geophys. Res.* **92**(A5), 4525 (1987). doi:[10.1029/JA092iA05p04525](https://doi.org/10.1029/JA092iA05p04525)
- A.L. Vampola, In-situ observations of magnetospheric electron scattering by a VLF transmitter. *J. Atmos. Terr. Phys.* **52**(5), 377–384 (1990). doi:[10.1016/0021-9169\(90\)90106-W](https://doi.org/10.1016/0021-9169(90)90106-W)
- J.A. Van Allen, The geomagnetically trapped corpuscular radiation. *J. Geophys. Res.* **64**(11), 1683–1689 (1959). doi:[10.1029/JZ064i011p01683](https://doi.org/10.1029/JZ064i011p01683)
- J.A. Van Allen, Lifetimes of geomagnetically trapped electrons of several MeV energy. *Nature* **203**(4949), 1006–1007 (1964). doi:[10.1038/2031006a0](https://doi.org/10.1038/2031006a0)
- J.A. Van Allen, in *Spatial Distribution and Time Decay of the Intensities of Geomagnetically Trapped Electrons from the High Altitude Nuclear Burst of July 1962*, ed. by B.M. McCormac (Springer, Dordrecht, 1966), pp. 575–592. doi:[10.1007/978-94-010-3553-8_42](https://doi.org/10.1007/978-94-010-3553-8_42)
- J.A. Van Allen, in *Energetic Particles in the Earth's External Magnetic Field*, ed. by C.S. Gillmor, J.R. Spreiter (American Geophysical Union, Washington, 1997), pp. 235–251. doi:[10.1029/HG007p0235](https://doi.org/10.1029/HG007p0235)
- J.A. Van Allen, L.A. Frank, Radiation around the Earth to a radial distance of 107,400 km. *Nature* **183**(4659), 430–434 (1959). doi:[10.1038/183430a0](https://doi.org/10.1038/183430a0)
- J.A. Van Allen, G.H. Ludwig, E.C. Ray, C.E. McIlwain, Observation of high intensity radiation by satellites 1958 alpha and gamma (Explorers I and III). *Jet Propuls.* **28**(9), 588–592 (1958). doi:[10.2514/8.7396](https://doi.org/10.2514/8.7396)
- J.A. Van Allen, C.E. McIlwain, G.H. Ludwig, Satellite observations of electrons artificially injected into the geomagnetic field. *Proc. Natl. Acad. Sci. USA* **45**(8), 1152–1171 (1959a)
- J.A. Van Allen, C.E. McIlwain, G.H. Ludwig, Radiation observations with satellite 1958 ϵ . *J. Geophys. Res.* **64**(3), 271–286 (1959b). doi:[10.1029/JZ064i003p00271](https://doi.org/10.1029/JZ064i003p00271)
- J.A. Van Allen, C.E. McIlwain, G.H. Ludwig, Satellite observations of electrons artificially injected into the geomagnetic field. *J. Geophys. Res.* **64**(8), 877–891 (1959c). doi:[10.1029/JZ064i008p00877](https://doi.org/10.1029/JZ064i008p00877)