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**Books**

(call numbers provided for UCI Library holdings)

Kolb, Edward W. and Michael S. Turner. The Early Universe. Frontiers in physics ; v.69. (Redwood City, Calif. : Addison-Wesley), 1990. Science Library QB981 .K687 1990

Kolb, Edward W. and Michael S. Turner. The Early Universe. Frontiers in physics ;v.70. (Redwood City, Calif. : Addison-Wesley Advanced Book Program), 1988. Science Library QB981 .K685 Suppl

Kolb, Edward W., Michael S. Turner, David Lindley, Keith Olive, and David Seckel (eds.). Inner Space Outer Space: The Interface Between Cosmology and Particle Physics. (Chicago, IL: University of Chicago), 1986. Science Library QB980 .I56 1986

## Articles

- Turner, M. S. (2007). "Quarks and the Cosmos." Science **315**(5808): 59-61.
- Turner, M.S. and Huterer, D. "Cosmic Acceleration, Dark Energy, and Fundamental Physics." Journal of the Physical Society Of Japan **76**: 111015.
- Shapiro, C. and M. S. Turner (2006). "What Do We Really Know About Cosmic Acceleration?" Astrophysical Journal **649**(2): 563-569.
- Carroll, S. M., A. De Felice, et al. (2005). "Cosmology of Generalized Modified Gravity Models." Physical Review D **71**: 065313.
- Turner, M. S. (2005). "Bullish on Particles." Science **310**(5753): 1389.
- Carroll, S. M., V. Duvvuri, et al. (2004). "Is Cosmic Speed-Up Due to New Gravitational Physics?" Physical Review D **70**: 043528.
- Freedman, W. L. and M. S. Turner (2003). "Colloquium: Measuring and Understanding The Universe." Reviews of Modern Physics **75**(4): 1433-1447.
- Frieman, J. A., D. Huterer, et al. (2003). "Probing Dark Energy with Supernovae: Exploiting Complementarity With The Cosmic Microwave Background." Physical Review D **67**: 083505.
- Turner, M. S. (2003). "Accelerators and Dinosaurs." Physics Today **56**(9): 10-11.
- Turner, M. S. (2003). "Dark Energy: Just What Theorists Ordered." Physics Today **56**(4): 10-11.
- Turner, M. S. (2003). "The Extravagant Universe." Science **299**(5607): 663-664.
- Turner, M. S. (2003). "The New Cosmology: Mid-Term Report Card For Inflation." Annales Henri Poincare **4**: S333-S346.
- Kaplinghat, M. and M. S. Turner (2002). "How Cold Dark Matter Theory Explains Milgrom's Law." Astrophysical Journal Letters **569**(1,Pt.2): L19-L22.
- Turner, M. S. (2002). "The Case for Omega(M)=0.33 +/- 0.035." Astrophysical Journal **576**(2): L101-L104.
- Turner, M. S. (2002). "Making Sense of the New Cosmology." International Journal of Modern Physics A **17**(1 supp.): 180-196.
- Turner, M. S. (2002). "The New Cosmology." International Journal of Modern Physics A **17**(24): 3446-3457.
- Turner, M. S. and A. G. Riess (2002). "Do Type Ia Supernovae Provide Direct Evidence for Past Deceleration of the Universe?" Astrophysical Journal **569**(1): 18-22.

- Asztalos, S., E. Daw, et al. (2001). "Large-Scale Microwave Cavity Search for Dark-Matter Axions." Physical Review D **64**: 092003.
- Burles, S., K. M. Nollett, et al. (2001). "Big Bang Nucleosynthesis Predictions for Precision Cosmology." Astrophysical Journal **552**(1): L1-L5.
- Burles, S., K. M. Nollett, et al. (2001). "What is the Big-Bang-Nucleosynthesis Prediction for the Baryon Density and How Reliable Is It?" Physical Review D **63**: 063512.
- Huterer, D. and M. S. Turner (2001). "Probing Dark Energy: Methods and Strategies." Physical Review D **64**: 123527.
- Kaplinghat, M. and M. S. Turner (2001). "Precision Cosmology and the Density of Baryons in the Universe." Physical Review Letters **86**(3): 385-388.
- Kirkman, D., D. Tytler, et al. (2001). "New Hubble Space Telescope Spectra of QSO PG 1718+4807: No Evidence for Strong Deuterium Absorption." Astrophysical Journal **559**(1): 23-28.
- Turner, M. S. (2001). "Dark Energy." Nuclear Physics B-Proceedings Supplements **91**: 405-409.
- Turner, M. S. (2001). "A Sober Assessment of Cosmology at the New Millennium." Publications of the Astronomical Society of the Pacific **113**(784): 653-657.
- Turner, M. S. (2001). "Two Theorists Never in Doubt." Physics Today **54**(12): 10-11.
- Turner, M. S. (2001). "Sonoluminescence' from the Early Universe (A)." Journal of the Acoustical Society of America **109**, 2370.
- Groom, D. E., M. Aguilar-Benitez, et al. (2000). "Review of Particle Physics." European Physical Journal C **15**(1-4): 1-878.
- Huterer, D. and M. S. Turner (2000). "Degree of Scale Invariance of Inflationary Perturbations." Physical Review D **62**: 063503.
- Kaplinghat, M., L. Knox, et al. (2000). "Annihilating Cold Dark Matter." Physical Review Letters **85**(16): 3335-3338.
- Peng, H., S. Asztalos, et al. (2000). "Cryogenic Cavity Detector for a Large-Scale Cold Dark-Matter Axion Search." Nuclear Instruments & Methods in Physics Research Section A - Accelerators Spectrometers Detectors and Associated Equipment **444**(3): 569-583.
- Turner, M. S. (2000). "Dark Matter and Dark Energy in the Universe." Physica Scripta **T85**: 210-220.
- Turner, M. S. (2000). "The Dark Side of the Universe: from Zwicky to Accelerated Expansion." Physics Reports - Review Section of Physics Letters **333**(1-6): 619-635.

- Turner, M. S. (2000). "Remembering David N. Schramm - October 25, 1945 - December 19, 1997." Physica Scripta **T85**: 9-11.
- Burles, S., K. M. Nollett, et al. (1999). "Sharpening the Predictions of Big-Bang Nucleosynthesis." Physical Review Letters **82**(21): 4176-4179.
- Huterer, D. and M. S. Turner (1999). "Prospects for Probing the Dark Energy via Supernova Distance Measurements." Physical Review D **60**: 081301.
- Kaplinghat, M., R. J. Scherrer, et al. (1999). "Constraining Variations in the Fine-Structure Constant with the Cosmic Microwave Background." Physical Review D **60**: 023516.
- Krauss, L. M. and M. S. Turner (1999). "Geometry and Destiny." General Relativity and Gravitation **31**(10): 1453-1459.
- Lopez, R. E., S. Dodelson, et al. (1999). "Precision Detection of the Cosmic Neutrino Background." Physical Review Letters **82**(20): 3952-3955.
- Lopez, R. E. and M. S. Turner (1999). "Precision Prediction for the Big-Bang Abundance of Primordial He-4." Physical Review D **59**: 063512.
- Perlmutter, S., M. S. Turner, and M. White. (1999). "Constraining Dark Energy With Type Ia Supernovae and Large-Scale Structure." Physical Review Letters **83**(4): 670-673.
- Turner, M. S. (1999). "Cosmology Solved? Maybe." Nuclear Physics B - Proceedings Supplements **72**: 69-80.
- Turner, M. S. (1999). "Cosmology Solved? Quite Possibly!" Publications of the Astronomical Society of the Pacific **111**(757): 264-273.
- Turner, M. S. (1999). "Large-Scale Structure From Quantum Fluctuations in the Early Universe." Philosophical Transactions of the Royal Society of London Series A - Mathematical Physical and Engineering Sciences **357**(1750): 7-20.
- Turner, M. S. and J. A. Tyson (1999). "Cosmology at the Millennium." Reviews of Modern Physics **71**(2): S145-S164.
- Turner, Michael S. (1999). "Cosmological Parameters." AIP Conference Proceeding (478): 113-128.
- Evans, N. W., G. Gyuk, et al. (1998). "The LMC Microlensing Events: Evidence for a Warped and Flaring Milky Way Disk?" Astrophysical Journal **501**(1): L45-L49.
- Gates, E. I., G. Gyuk, et al. (1998). "No Need for MACHOs in the Halo." Astrophysical Journal **500**(2): L145-L148.
- Hagmann, C., Kinion, D., et al. (1998). "Results from a High-Sensitivity Search for Cosmic Axions." Physical Review Letters **80**(10): 2043-2046.

- Kolb, E. W. and M. S. Turner (1998). "Obituary - David N. Schramm (1945-97) - Astrophysicist Who Linked Outer Space to the Inner Space of Particle Physics." Nature **391**(6666): 444.
- Lopez, R. E., S. Dodelson, et al. (1998). "Probing Unstable Massive Neutrinos with Current Cosmic Microwave Background Observations." Physical Review Letters **81**(15): 3075-3078.
- Olinto, A. V., J. W. Truran, et al. (1998). "David Norman Schramm - Obituaries." Physics Today **51**(7): 81-82.
- Schramm, D. N. and M. S. Turner (1998). "Big-Bang Nucleosynthesis Enters the Precision Era." Reviews of Modern Physics **70**(1): 303-318.
- Shi, X. D. and M. S. Turner (1998). "Expectations for the Difference Between Local and Global Measurements of the Hubble Constant." Astrophysical Journal **493**(2): 519-522.
- Bennett, C. L., M. S. Turner, et al. (1997). "The Cosmic Rosetta Stone." Physics Today **50**(11): 32-38.
- Copi, C. J., D. N. Schramm, et al. (1997). "Big-Bang Nucleosynthesis Limit to the Number of Neutrino Species." Physical Review D **55**(6): 3389-3393.
- Gates, E., M. Kamionkowski, et al. (1997). "Dispersion Velocity of Galactic Dark Matter Particles - Comment." Physical Review Letters **78**(11): 2261.
- Jaffe, A. H. and M. S. Turner (1997). "Limits to Radiative Neutrino Decay from SN 1987A." Physical Review D **55**(12): 7951-7959.
- Keil, W., H. T. Janka, et al. (1997). "Fresh Look at Axions and SN 1987A." Physical Review D **56**(4): 2419-2432.
- Kinney, W. H., E. W. Kolb, et al. (1997). "Ribbons on the Cosmic Background Radiation Sky: A Powerful Test of a Baryon Symmetric Universe." Physical Review Letters **79**(14): 2620-2623.
- Lopez, R. E., M. S. Turner, et al. (1997). "Effect of Finite Nucleon Mass on Primordial Nucleosynthesis." Physical Review D **56**(6): 3191-3197.
- Turner, M. S. (1997). "Cosmology 1996." Nuclear Physics B (Suppl. 59): 239-248.
- Turner, M. S. (1997). "Detectability of Inflation-Produced Gravitational Waves." Physical Review D **55**(2): R435-R439.
- Turner, M. S. and E. J. Weinberg (1997). "Pre-Big-Bang Inflation Requires Fine-Tuning." Physical Review D **56**(8): 4604-4609.
- Turner, M. S. and M. White (1997). "CDM Models with a Smooth Component." Physical Review D **56**(8): R4439-R4443.

- Copi, C. J., D. N. Schramm, et al. (1996). "Latest Nucleosynthesis Constraints on the Baryon Density of the Universe." Nuclear Physics B (Suppl. 51B): 66-70.
- Dodelson, S., E. I. Gates, et al. (1996). "Cold Dark Matter." Science **274**(5284): 69-75.
- Gates, E., G. Gyuk, et al. (1996). "Gravitational Microlensing and Halo Dark Matter." Nuclear Physics B (Suppl. 51B): 157-162.
- Gates, E. I., G. Gyuk, et al. (1996). "Gravitational Microlensing and the Galactic Halo." Physical Review D **53**(8): 4138-4176.
- Gyuk, G., E. Gates, et al. (1996). "Microlensing Towards the Galactic Bulge and Galactic Dark Matter." Nuclear Physics B (Suppl. 51B): 146-151.
- Schramm, D. N. and M. S. Turner (1996). "Cosmology - Deuteronomy and Numbers." Nature **381**(6579): 193-194.
- Turner, M. S. (1996). "Cosmology: Going Beyond the Big Bang." Physics World **9**(9): 31-39.
- Turner, M. S. (1996). "The Hot Big Band and Beyond." IAU Symposium **168**: 301-320.
- Turner, M. S., J. W. Truran, et al. (1996). "Cosmological Implications of the First Measurement of the Local ISM Abundance of He-3." Astrophysical Journal **466**(2): L59-L62.
- Turner, M. S. and Y. Wang (1996). "Fast And Accurate Algorithm For Computing Tensor CBR Anisotropy." Physical Review D **53**(10): 5727-5733.
- Turner, M. S. and M. White (1996). "Dependence of Inflationary Reconstruction Upon Cosmological Parameters." Physical Review D **53**(12): 6822-6828.
- Bartlett, J. G., A. Blanchard, et al. (1995). "The Case for a Hubble Constant of 30 Km S(-1) Mpc(-1)." Science **267**(5200): 980-983.
- Copi, C. J., D. N. Schramm, et al. (1995). "Assessing Big-Bang Nucleosynthesis." Physical Review Letters **75**(22): 3981-3984.
- Copi, C. J., D. N. Schramm, et al. (1995). "Big-Bang Nucleosynthesis and a New Approach to Galactic Chemical Evolution." Astrophysical Journal **455**(2): L95-L98.
- Copi, C. J., D. N. Schramm, et al. (1995). "Big-Bang Nucleosynthesis and the Baryon Density of the Universe." Science **267**(5195): 192-199.
- Gates, E. I., G. Gyuk, et al. (1995). "The Local Halo Density." Astrophysical Journal **449**(2): L123-L126.
- Gates, E. I., G. Gyuk, et al. (1995). "Microlensing and Halo Cold Dark-Matter." Physical Review Letters **74**(19): 3724-3727.

- Gyuk, G. and M. S. Turner (1995). "Mev Tau-Neutrino - Astrophysical and Cosmological Constraints and Mischief." Nuclear Physics B (Suppl. 38): 13-25.
- Gyuk, G. and M. S. Turner (1995). "Mev Tau-Neutrino - Astrophysical and Cosmological Constraints and Mischief." Nuclear Physics B (Suppl. 40): 557-567.
- Kosowsky, A. and M. S. Turner (1995). "CBR Anisotropy and the Running of the Scalar Spectral Index." Physical Review D **52**(4): R1739-R1743.
- Krauss, L. M. and M. S. Turner (1995). "The Cosmological Constant Is Back." General Relativity and Gravitation **27**(11): 1137-1144.
- Sigl, G. and M. S. Turner (1995). "Massive Tau-Neutrino and Sn 1987a." Physical Review D **51**(4): 1499-1509.
- Turner, M. S. (1995). "Inflation: From theory to Observation and Back." Seventeenth Texas Symposium on Relativistic Astrophysics and Cosmology. **759**: 153-169.
- Dodelson, S., G. Gyuk, et al. (1994). "Is a Massive Tau-Neutrino Just What Cold Dark-Matter Needs." Physical Review Letters **72**(24): 3754-3757.
- Dodelson, S., G. Gyuk, et al. (1994). "Primordial Nucleosynthesis with a Decaying Tau-Neutrino." Physical Review D **49**(10): 5068-5079.
- Gates, E. and M. S. Turner (1994). "Halo Cold Dark-Matter and Microlensing." Physical Review Letters **72**(16): 2520-2523.
- Gyuk, G. and M. S. Turner (1994). "Relaxing the Big-Bang Bound to the Baryon Density." Physical Review D **50**(10): 6130-6134.
- Hu, Y., M. S. Turner, et al. (1994). "Dynamical Solutions to the Horizon and Flatness Problems." Physical Review D **49**(8): 3830-3836.
- Kamionkowski, M., A. Kosowsky, et al. (1994). "Gravitational-Radiation from 1st-Order Phase-Transitions." Physical Review D **49**(6): 2837-2851.
- Knox, L. and M. S. Turner (1994). "Detectability of Tensor Perturbations through Anisotropy of the Cosmic Background-Radiation." Physical Review Letters **73**(25): 3347-3350.
- Liddle, A. R. and M. S. Turner (1994). "2nd-Order Reconstruction of the Inflationary Potential." Physical Review D **50**(2): 758-768.
- Vanbibber, K., W. Stoeffl, et al. (1994). "A Next-Generation Cavity Microwave Experiment to Search for Dark-Matter Axions." International Journal of Modern Physics D **3**: 33-42.
- Adams, F. C., M. Fatuzzo, et al. (1993). "Extension of the Parker Bound on the Flux of Magnetic Monopoles." Physical Review Letters **70**(17): 2511-2514.

- Fields, B. D., S. Dodelson, et al. (1993). "Effect of Neutrino Heating on Primordial Nucleosynthesis." Physical Review D **47**(10): 4309-4314.
- Knox, L. and M. S. Turner (1993). "Inflation at the Electroweak Scale." Physical Review Letters **70**(4): 371-374.
- Kosowsky, A. and M. S. Turner (1993). "Gravitational-Radiation from Colliding Vacuum Bubbles - Envelope Approximation to Many-Bubble Collisions." Physical Review D **47**(10): 4372-4391.
- Mayle, R., D. N. Schramm, et al. (1993). "Constraints on Dirac Neutrinos from Sn-1987a." Physics Letters B **317**(1-2): 119-124.
- Turner, M. S. (1993). "Dark Matter - Theoretical Perspectives." Proceedings of the National Academy of Sciences of the United States of America **90**(11): 4827-4834.
- Turner, M. S. (1993). "Production of Scalar and Tensor Perturbations in Inflationary Models." Physical Review D **48**(8): 3502-3512.
- Turner, M. S. (1993). "Recovering the Inflationary Potential." Physical Review D **48**(12): 5539-5545.
- Turner, M. S. (1993). "Why Is the Temperature of the Universe 2.726-Kelvin." Science **262**(5135): 861-867.
- Turner, M. S., M. White, et al. (1993). "Tensor Perturbations in Inflationary Models as a Probe of Cosmology." Physical Review D **48**(10): 4613-4622.
- Burrows, A., R. Gandhi, et al. (1992). "Massive Dirac Neutrinos and Sn-1987a." Physical Review Letters **68**(26): 3834-3837.
- Davis, R. L., H. M. Hodges, et al. (1992). "Cosmic Microwave Background Probes Models of Inflation." Physical Review Letters **69**(13): 1856-1859.
- Dodelson, S., J. A. Frieman, et al. (1992). "Constraints to the Decays of Dirac Neutrinos from Sn-1987a." Physical Review Letters **68**(17): 2572-2575.
- Dodelson, S. and M. S. Turner (1992). "Nonequilibrium Neutrino Statistical-Mechanics in the Expanding Universe." Physical Review D **46**(8): 3372-3387.
- Kosowsky, A., M. S. Turner, et al. (1992). "Gravitational-Radiation from Colliding Vacuum Bubbles." Physical Review D **45**(12): 4514-4535.
- Kosowsky, A., M. S. Turner, et al. (1992). "Gravitational-Waves from 1st-Order Cosmological Phase-Transitions." Physical Review Letters **69**(14): 2026-2029.
- Turner, M. S. (1992). "Dirac Neutrinos and Sn-1987a." Physical Review D **45**(4): 1066-1075.

- Turner, M. S. (1992). "The Tilted Universe." General Relativity and Gravitation **24**(1): 1-7.
- Turner, M. S., E. J. Weinberg, et al. (1992). "Bubble Nucleation in 1st-Order Inflation and Other Cosmological Phase-Transitions." Physical Review D **46**(6): 2384-2403.
- Bershadsky, M. A., M. T. Ressell, et al. (1991). "Telescope Search for a 3-Ev to 8-Ev Axion." Physical Review Letters **66**(11): 1398-1401.
- Hill, C. T., P. J. Steinhardt, et al. (1991). "Coherent Peculiar Velocities and Periodic Redshifts." Astrophysical Journal **366**(2): L57-L60.
- Kamionkowski, M. and M. S. Turner (1991). "Distinctive Positron Feature from Particle Dark-Matter Annihilations in the Galactic Halo." Physical Review D **43**(6): 1774-1780.
- Kolb, E. W. and M. S. Turner (1991). "Astrophysics and Cosmology Confront the 17-Kev Neutrino." Physical Review Letters **67**(1): 5-8.
- Kolb, E. W., M. S. Turner, et al. (1991). "Constraints from Primordial Nucleosynthesis on the Mass of the Tau Neutrino." Physical Review Letters **67**(5): 533-536.
- Rajagopal, K., M. S. Turner, et al. (1991). "Cosmological Implications of Axinos." Nuclear Physics B **358**(2): 447-470.
- Turner, M. S. (1991). "Dark Matter in the Universe." Physica Scripta **T36**: 167-182.
- Turner, M. S. (1991). "Tilted Universe and Other Remnants of the Preinflationary Universe." Physical Review D **44**(12): 3737-3748.
- Turner, M. S., R. Watkins, et al. (1991). "Microwave Distortions from Collapsing Domain-Wall Bubbles." Astrophysical Journal **367**(2): L43-L47.
- Turner, M. S. and F. Wilczek (1991). "Inflationary Axion Cosmology." Physical Review Letters **66**(1): 5-8.
- Burrows, A., M. T. Ressell, et al. (1990). "Axions and Sn-1987a - Axion Trapping." Physical Review D **42**(10): 3297-3309.
- Frieman, J. A., E. W. Kolb, et al. (1990). "Eternal Annihilations - New Constraints on Long-Lived Particles from Big-Bang Nucleosynthesis." Physical Review D **41**(10): 3080-3085.
- Griest, K., M. Kamionkowski, et al. (1990). "Supersymmetric Dark Matter above the W-Mass." Physical Review D **41**(12): 3565-3582.
- Harvey, J. A. and M. S. Turner (1990). "Cosmological Baryon and Lepton Number in the Presence of Electroweak Fermion-Number Violation." Physical Review D **42**(10): 3344-3349.

- Hill, C. T., P. J. Steinhardt, et al. (1990). "Can Oscillating Physics Explain an Apparently Periodic Universe." Physics Letters B **252**(3): 343-348.
- Kamionkowski, M. and M. S. Turner (1990). "Thermal Relics - Do We Know Their Abundances." Physical Review D **42**(10): 3310-3320.
- Kolb, E. W., D. S. Salopek, et al. (1990). "Origin of Density-Fluctuations in Extended Inflation." Physical Review D **42**(12): 3925-3935.
- Turner, M. S. (1990). "Periodic Signatures for the Detection of Cosmic Axions." Physical Review D **42**(10): 3572-3575.
- Turner, M. S. (1990). "Windows on the Axion." Physics Reports - Review Section of Physics Letters **197**(2): 67-97.
- Turner, M. S. and F. Wilczek (1990). "Positron Line Radiation as a Signature of Particle Dark Matter in the Halo." Physical Review D **42**(4): 1001-1007.
- Turner, M. S. and F. Wilczek (1990). "Relic Gravitational-Waves and Extended Inflation." Physical Review Letters **65**(25): 3080-3083.
- Burrows, A., M. S. Turner, et al. (1989). "Axions and Sn-1987a." Physical Review D **39**(4): 1020-1028.
- Kolb, E. W. and M. S. Turner (1989). "Limits to the Radiative Decays of Neutrinos and Axions from Gamma-Ray Observations of Sn-1987a." Physical Review Letters **62**(5): 509-512.
- Stebbins, A. and M. S. Turner (1989). "Is the Great Attractor Really a Great Wall." Astrophysical Journal **339**(1): L13-L16.
- Turner, M. S., A. G. Cohen, et al. (1989). "Isocurvature Baryon Number Fluctuations in an Inflationary Universe." Physics Letters B **216**(1-2): 20-26.
- Turner, M. S., H. S. Kang, et al. (1989). "Axions, Sn-1987a, and One-Pion Exchange." Physical Review D **40**(2): 299-308.
- Brinkmann, R. P. and M. S. Turner (1988). "Numerical Rates for Nucleon-Nucleon, Axion Bremsstrahlung." Physical Review D **38**(8): 2338-2348.
- Frieman, J. A., K. Freese, et al. (1988). "Superheavy Magnetic Monopoles and Main-Sequence Stars." Astrophysical Journal **335**(2): 844-861.
- Hill, C. T., H. M. Hodges, et al. (1988). "Bosonic Superconducting Cosmic Strings." Physical Review D **37**(2): 263-282.
- Scherrer, R. J. and M. S. Turner (1988). "Primordial Nucleosynthesis with Decaying Particles. 1. Entropy-Producing Decays." Astrophysical Journal **331**(1): 19-32.

- Scherrer, R. J. and M. S. Turner (1988). "Primordial Nucleosynthesis with Decaying Particles. 2. Inert Decays." Astrophysical Journal **331**(1): 33-37.
- Turner, M. S. (1988). "Axions from Sn1987a." Physical Review Letters **60**(18): 1797-1800.
- Turner, M. S. (1988). "On the Magnitude of Baryon-to-Photon Ratio Inhomogeneities Resulting from a 1st-Order Quark-Hadron Transition." Physical Review D **37**(10): 3049-3051.
- Turner, M. S. and L. M. Widrow (1988). "Gravitational Production of Scalar Particles in Inflationary-Universe Models." Physical Review D **37**(12): 3428-3437.
- Turner, M. S. and L. M. Widrow (1988). "Inflation-Produced, Large-Scale Magnetic-Fields." Physical Review D **37**(10): 2743-2754.
- Charlton, J. C. and M. S. Turner (1987). "Kinematic Tests of Exotic Flat Cosmological Models." Astrophysical Journal **313**(2): 495-504.
- Frieman, J. A., S. Dimopoulos, et al. (1987). "Axions and Stars." Physical Review D **36**(8): 2201-2210.
- Hill, C. T., H. M. Hodges, et al. (1987). "Variational Study of Ordinary and Superconducting Cosmic Strings." Physical Review Letters **59**(21): 2493-2496.
- Hodges, H. M., E. W. Kolb, et al. (1987). "Parker Limit for Monopoles with Large Magnetic Charge." Physical Review D **35**(6): 2024-2026.
- Kolb, E. W., A. J. Stebbins, et al. (1987). "How Reliable Are Neutrino Mass Limits Derived from Sn1987a." Physical Review D **35**(12): 3598-3606.
- Kolb, E. W. and M. S. Turner (1987). "Supernova 1987a and the Secret Interactions of Neutrinos." Physical Review D **36**(10): 2895-2900.
- Pacher, T., J. A. Steinschabes, et al. (1987). "Can Bulk Viscosity Drive Inflation." Physical Review D **36**(6): 1603-1606.
- Silk, J. and M. S. Turner (1987). "Double Inflation." Physical Review D **35**(2): 419-428.
- Turner, M. S. (1987). "A Cosmologists Tour through the New Particle Zoo (Candy Shop)." IAU Symposia (117): 445-488.
- Turner, M. S. (1987). "Early-Universe Thermal Production of Not-So-Invisible Axions." Physical Review Letters **59**(21): 2489-2492.
- Turner, M. S. (1987). "Toward the Inflationary Paradigm - Lectures on Inflationary Cosmology." Acta Physica Polonica B **18**(9): 813-873.
- Turner, M. S., J. V. Villumsen, et al. (1987). "Double Inflation - a Possible Resolution of the Large-Scale Structure Problem." Astrophysical Journal **323**(2): 423-432.

- Turner, M. S. and L. Widrow (1987). "Old Inflation and Anisotropy." Nature **326**(6109): 206-206.
- Vittorio, N. and M. S. Turner (1987). "The Large-Scale Peculiar Velocity-Field in Flat Models of the Universe." Astrophysical Journal **316**(2): 475-482.
- Kolb, E. W., M. S. Turner, et al. (1986). "Effect of Interacting Particles on Primordial Nucleosynthesis." Physical Review D **34**(8): 2197-2205.
- Kolb, E. W., M. S. Turner, et al. (1986). "Yet Another Possible Explanation of the Solar-Neutrino Puzzle." Physics Letters B **175**(4): 478-484.
- Scherrer, R. J. and M. S. Turner (1986). "On the Relic, Cosmic Abundance of Stable, Weakly Interacting Massive Particles." Physical Review D **33**(6): 1585-1589.
- Steigman, G., K. A. Olive, et al. (1986). "A Reexamination of the Cosmological Bound to the Number of Neutrino Flavors." Physics Letters B **176**(1-2): 33-38.
- Turner, M. S. (1986). "Cosmic and Local Mass Density of Invisible Axions." Physical Review D **33**(4): 889-896.
- Turner, M. S. (1986). "Monopoles, Cosmology, and Astrophysics - Update 1985." Annals of the New York Academy of Sciences **461**: 639-651.
- Turner, M. S. (1986). "Probing the Structure of the Galactic Halo with Gamma-Rays Produced by Annihilations of Weakly Interacting Massive Particles." Physical Review D **34**(6): 1921-1924.
- Turner, M. S. and L. M. Widrow (1986). "Homogeneous Cosmological Models and New Inflation." Physical Review Letters **57**(17): 2237-2240.
- Accetta, F. S., D. J. Zoller, et al. (1985). "Induced-Gravity Inflation." Physical Review D **31**(12): 3046-3051.
- Kolb, E. W., D. Seckel, et al. (1985). "The Shadow World of Superstring Theories." Nature **314**(6010): 415-419.
- Kolb, E. W. and M. S. Turner (1985). "On the Relic Abundance of Stable Neutrinos." Physics Letters B **159**(2-3): 102-106.
- Kolb, E. W., M. S. Turner, et al. (1985). "Production and Detection of High-Energy Neutrinos from Cygnus-X-3." Physical Review D **32**(5): 1145-1151.
- Scherrer, R. J. and M. S. Turner (1985). "Decaying Particles Do Not Heat up the Universe." Physical Review D **31**(4): 681-688.
- Seckel, D. and M. S. Turner (1985). "Isothermal Density Perturbations in an Axion-Dominated Inflationary Universe." Physical Review D **32**(12): 3178-3183.

- Steigman, G. and M. S. Turner (1985). "Cosmological Constraints on the Properties of Weakly Interacting Massive Particles." Nuclear Physics B **253**(2): 375-386.
- Turner, M. S. (1985). "Cosmology with Decaying Particles." Physical Review D **31**(6): 1212-1224.
- Turner, M. S. (1985). "Microwave Background Anisotropy and Decaying-Particle Models for a Flat Universe - Comment." Physical Review Letters **55**(5): 549.
- Turner, M. S. (1985). "Quantitative-Analysis of the Thermal Damping of Coherent Axion Oscillations." Physical Review D **32**(4): 843-847.
- Turner, M. S. (1985). "String-Dominated Universe - Comment." Physical Review Letters **54**(3): 252.
- Collins, W. and M. S. Turner (1984). "Thermal Production of Superheavy Magnetic Monopoles in the New Inflationary-Universe Scenario." Physical Review D **29**(10): 2158-2161.
- Frieman, J. A. and M. S. Turner (1984). "Evolution of Density Perturbations through Cosmological Phase-Transitions." Physical Review D **30**(2): 265-271.
- Kolb, E. W. and M. S. Turner (1984). "Limits from the Soft-X-Ray Background on the Temperature of Old Neutron Stars and on the Flux of Superheavy Magnetic Monopoles." Astrophysical Journal **286**(2): 702-710.
- Steinhardt, P. J. and M. S. Turner (1984). "Prescription for Successful New Inflation." Physical Review D **29**(10): 2162-2171.
- Turner, M. S. (1984). "Big-Bang Nucleosynthesis - Gateway to the Very Early Universe." Annals of the New York Academy of Sciences **422**: 106-117.
- Turner, M. S. (1984). "Particle Physics and Cosmology - the Inner Space Outer Space Connection." AIP Conference Proceedings **112**: 51-89.
- Turner, M. S., G. Steigman, et al. (1984). "Flatness of the Universe - Reconciling Theoretical Prejudices with Observational Data." Physical Review Letters **52**(23): 2090-2093.
- Yang, J., M. S. Turner, et al. (1984). "Primordial Nucleosynthesis - a Critical Comparison of Theory and Observation." Astrophysical Journal **281**(2): 493-511.
- Bardeen, J. M., P. J. Steinhardt, et al. (1983). "Spontaneous Creation of Almost Scale-Free Density Perturbations in an Inflationary Universe." Physical Review D **28**(4): 679-693.
- Dicus, D. A., E. W. Kolb, et al. (1983). "Corrections to Primordial Nucleosynthesis." AIP Conference Proceedings **99**: 81-90.
- Freese, K., E. W. Kolb, et al. (1983). "Massive, Degenerate Neutrinos and Cosmology." Physical Review D **27**(8): 1689-1695.

- Freese, K. and M. S. Turner (1983). "Is the Local Monopole Flux Enhanced." Physics Letters B **123**(5): 293-298.
- Freese, K., M. S. Turner, et al. (1983). "Monopole Catalysis of Nucleon Decay in Old Pulsars." Physical Review Letters **51**(18): 1625-1628.
- Fry, J. N. and M. S. Turner (1983). "Baryogenesis and Supersymmetric Guts." Physics Letters B **125**(5): 379-384.
- Kolb, E. W. and M. S. Turner (1983). "Grand Unified Theories and the Origin of the Baryon Asymmetry." Annual Review of Nuclear and Particle Science **33**: 645-696.
- Steigman, G. and M. S. Turner (1983). "Inflation in a Shear-or Curvature-Dominated Universe." Physics Letters B **128**(5): 295-298.
- Steinhardt, P. J. and M. S. Turner (1983). "Saving the Invisible Axion." Physics Letters B **129**(1-2): 51-56.
- Turner, M. S. (1983). "Coherent Scalar-Field Oscillations in an Expanding Universe." Physical Review D **28**(6): 1243-1247.
- Turner, M. S. (1983). "The End May Be Hastened by Magnetic Monopoles." Nature **306**(5939): 161-162.
- Turner, M. S. (1983). "Monopole Heat." Nature **302**(5911): 804-806.
- Turner, M. S., F. Wilczek, et al. (1983). "Formation of Structure in an Axion-Dominated Universe." Physics Letters B **125**(1): 35-40.
- Albrecht, A., P. J. Steinhardt, et al. (1982). "Reheating an Inflationary Universe." Physical Review Letters **48**(20): 1437-1440.
- Barrow, J. D. and M. S. Turner (1982). "The Inflationary Universe - Birth, Death and Transfiguration." Nature **298**(5877): 801-805.
- Bond, J. R., A. S. Szalay, et al. (1982). "Formation of Galaxies in a Gravitino-Dominated Universe." Physical Review Letters **48**(23): 1636-1639.
- Dicus, D. A., E. W. Kolb, et al. (1982). "Primordial Nucleosynthesis Including Radiative, Coulomb, and Finite-Temperature Corrections to Weak Rates." Physical Review D **26**(10): 2694-2706.
- Kolb, E. W. and M. S. Turner (1982). "The Survival of Primordial Color Fluctuations." Physics Letters B **115**(2): 99-103.
- Olive, K. A. and M. S. Turner (1982). "Cosmological Bounds on the Masses of Stable, Right-Handed Neutrinos." Physical Review D **25**(1): 213-216.

- Turner, M. S. (1982). "Baryogenesis without the out-of-Equilibrium Decay of Superheavy Bosons." Physical Review D **25**(2): 299-305.
- Turner, M. S. (1982). "Could Primordial Black-Holes Be the Source of the Cosmic-Ray Antiprotons." Nature **297**(5865): 379-381.
- Turner, M. S. (1982). "Thermal Production of Superheavy Magnetic Monopoles in the Early Universe." Physics Letters B **115**(2): 95-98.
- Turner, M. S., E. N. Parker, et al. (1982). "Magnetic Monopoles and the Survival of Galactic Magnetic-Fields." Physical Review D **26**(6): 1296-1305.
- Turner, M. S. and F. Wilczek (1982). "Is Our Vacuum Metastable." Nature **298**(5875): 635-636.
- Barrow, J. D. and M. S. Turner (1981). "Baryosynthesis and the Origin of Galaxies." Nature **291**(5815): 469-472.
- Barrow, J. D. and M. S. Turner (1981). "Inflation in the Universe." Nature **292**(5818): 35-38.
- Kolb, E. W. and M. S. Turner (1981). "The Early Universe." Nature **294**(5841): 521-526.
- Olive, K. A., D. N. Schramm, et al. (1981). "Big-Bang Nucleosynthesis as a Probe of Cosmology and Particle Physics." Astrophysical Journal **246**(3): 557-568.
- Olive, K. A. and M. S. Turner (1981). "Comment on the Consistency of the Standard Model of Primordial Nucleosynthesis." Physical Review Letters **46**(7): 516.
- Segre, G. and M. S. Turner (1981). "Baryon Generation, the K-M Mechanism, and Minimal Su(5)." Physics Letters B **99**(5): 399-404.
- Turner, M. S. (1981). "On the Lepton Numbers of the Universe." Physics Letters B **98**(1-2): 145-148.
- Turner, M. S. and J. N. Fry (1981). "Baryogenesis without the Initial Presence of Superheavy Bosons." Physical Review D **24**(12): 3341-3344.
- Fry, J. N., K. A. Olive, et al. (1980). "Evolution of Cosmological Baryon Asymmetries. 1. The Role of Gauge Bosons." Physical Review D **22**(12): 2953-2976.
- Fry, J. N., K. A. Olive, et al. (1980). "Evolution of Cosmological Baryon Asymmetries. 2. The Role of Higgs Bosons." Physical Review D **22**(12): 2977-2988.
- Fry, J. N., K. A. Olive, et al. (1980). "Hierarchy of Cosmological Baryon Generation." Physical Review Letters **45**(25): 2074-2077.
- Turner, M. S. (1980). "Baryon Production by Primordial Black-Holes." Bulletin of the American Physical Society **25**(1): 39.

- Turner, M. S. (1980). "The Big-Bang - from Primordial Soup to Expanding Universe." Journal of the Optical Society of America **70**(12): 1587.
- Turner, M. S., J. N. Fry, et al. (1980). "Evolution of Cosmological Baryon Asymmetries." Bulletin of the American Physical Society **25**(4): 581.
- Vanriper, K. A. and M. S. Turner (1980). "Octupole Gravitational-Radiation from Slowly-Rotating Super-Novae." Bulletin of the American Physical Society **25**(1): 38.
- Turner, M. S. (1979). "Baryon Production by Primordial Black-Holes." Physics Letters B **89**(1): 155-159.
- Turner, M. S. (1979). "Gravitational-Waves - Evidence for Indirect Detection and Prospects for Direct Detection." Bulletin of the American Physical Society **24**(3): 482.
- Turner, M. S. (1979). "Influence of a Weak Gravitational-Wave on a Bound System of 2 Point-Masses." Bulletin of the American Physical Society **24**(3): 369-370.
- Turner, M. S. (1979). "Influence of a Weak Gravitational-Wave on a Bound System of 2-Point-Masses." Astrophysical Journal **233**(2): 685-693.
- Turner, M. S. (1979). "Isotropy and Homogeneity of the Universe." Nature **281**(5732): 549-550.
- Turner, M. S. and D. N. Schramm (1979). "Cosmology and Elementary-Particle Physics." Physics Today **32**(9): 42-48.
- Turner, M. S. and D. N. Schramm (1979). "Origin of Baryons in the Universe." Nature **279**(5711): 303-305.
- Turner, M. S. and D. N. Schramm (1979). "Origin of Baryons in the Universe and the Astrophysical Implications." Bulletin of the American Physical Society **24**(4): 566-566.
- Turner, Michael S. (1978). "Gravitational Radiation From Supernova Neutrino Bursts." Nature **274**(5671):565-566.
- Turner, Michael S. and B.C. Barish. (1972). "Prospects for producing and detecting a spinless w boson in high-energy neutrino and muon experiments." Physical Review D **5**:638-661.

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## Honors and Commendations

- Caltech Distinguished Alumni Award, 2006
- Fellow of the American Association of the Advancement of Science, 2006
- Sc. D. (honorary), Michigan State University, 2005
- Heinrich Hertz Lecture (DESY Lab), 2004
- Phi Beta Kappa Visiting Scholar, 2002 – 2003
- Niehls Bohr Lecturer, University of Copenhagen, 2001
- Kallen Memorial Lecturer, Lund University, 2000
- Klopsteg Memorial Lecturer Award of the AAPT, 1999
- Elected to the National Academy of Sciences, 1997
- Julius Edgar Lilienfeld Prize of the American Physical Society, 1997
- Fellow, American Academy of the Arts and Sciences, 1996
- Halley Lecturer, Oxford University, 1994
- Gravity Research Foundation Essay Competition First Award, 1991
- Fellow of the American Physical Society, 1986
- Helen B. Warner Prize for the American Astronomical Society, 1984
- Quantrell Award for Excellence in Undergraduate Teaching, 1983
- Alfred P. Sloan Fellow, 1983 – 1988
- Enrico Fermi Fellow, 1978 – 1980
- National Science Foundation fellow, 1971 – 1974

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[http://chandra.harvard.edu/press/bios/turner\\_bio.html](http://chandra.harvard.edu/press/bios/turner_bio.html)

1997 Julius Edgar Lilienfeld Prize Recipient. Michael S. Turner, University of Chicago

<http://www.aps.org/programs/honors/prizes/prizerecipient.cfm?name=Michael%20S%2E%20Turner&year=1997>

Michael S. Turner, Cosmologist

[http://en.wikipedia.org/wiki/Michael\\_Turner\\_\(cosmologist\)](http://en.wikipedia.org/wiki/Michael_Turner_(cosmologist))

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<http://www.anl.gov/Administration/Bios/turner.html>