

Publications of Kirk T. McDonald

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<http://puhep1.princeton.edu/~mcdonald/examples/ph410problems.pdf>

887. *Reflections of a (Skeptical) Experimental High-Energy Physicist after Teaching a Course on Quantum Computation* (Feb. 24, 2006),
<http://puhep1.princeton.edu/~mcdonald/examples/QMtrans1.pdf>

Ph501: Electricity and Magnetism

888. *Ph501 Lecture 1: Overview of Maxwell's Equations; Electrostatics*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture1.pdf>
889. *Ph501 Lecture 2: Conductors and Dielectrics*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501ph501lecture2.pdf>
890. *Ph501 Lecture 3: Electrostatic Energy, Maxwell Stress Tensor*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501ph501lecture3.pdf>
891. *Ph501 Lecture 4: Potential Theory: Image Methods, 2-D Problems with Rectangular Boundaries*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture4.pdf>
892. *Ph501 Lecture 5: Potential Theory: 2-D Problems with Cylindrical and Spherical Boundaries*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture5.pdf>
893. *Ph501 Lecture 6: Potential Theory: 3-D Problems with Cylindrical Boundaries; Conducting Needles, Spheroids, Disks; Use of Conjugate Functions*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture6.pdf>
894. *Ph501 Lecture 7: Steady Currents; Magnetostatics*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture7.pdf>
895. *Ph501 Lecture 8: Sources of the Magnetic field; Magnetic Materials*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture8.pdf>
896. *Ph501 Lecture 9: Faraday's Law*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture9.pdf>
897. *Ph501 Lecture 10: Electromagnetic Energy, Momentum and Angular Momentum; Inductance*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture10.pdf>
898. *Ph501 Lecture 11: Introduction to Electromagnetic Waves*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture11.pdf>
899. *Ph501 Lecture 12: Plane Waves in Dielectric Media*,
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900. *Ph501 Lecture 13: Plane Waves in Conducting Media*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture13.pdf>

901. *Ph501 Lecture 14: Waves in Boxes and Pipes*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture14.pdf>
902. *Ph501 Lecture 15: Sources of the Waves – The Retarded Potentials*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture15.pdf>
903. *Ph501 Lecture 16: Multipole Radiation; Antennas; Scattering*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture16.pdf>
904. *Ph501 Lecture 17: Optics and Diffraction; Gaussian Laser Beams*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture17.pdf>
905. *Ph501 Lecture 18: Special Relativity; The 4-Potential of a Moving Charge*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture18.pdf>
906. *Ph501 Lecture 19: Other Force Fields; Significance of Gauge Invariance; Fields of a Moving Charge*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501ph501lecture19.pdf>
907. *Ph501 Lecture 20: Relativistic Radiation Effects: Bremsstrahlung, Synchrotron Radiation*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture20.pdf>
908. *Ph501 Lecture 21: Relativistic Radiation Effects: Čerenkov Radiation, Transition Radiation*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture21.pdf>
909. *Ph501 Lecture 22: Electromagnetic Mass; Radiation Reaction*,
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910. *Ph501 Lecture 23: Interaction of Radiation with Matter – Microscopic View*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture23.pdf>
911. *Ph501 Lecture 24: Mechanics and Electromagnetism*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture24.pdf>
912. *Ph501 Lecture 25: Lasers from a Classical Perspective*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture25.pdf>
913. *Ph501 Lecture 26: Solitons*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501/ph501lecture26.pdf>
914. *Ph501 Problem Set 1*,
<http://puhep1.princeton.edu/~mcdonald/examples/ph501set1.pdf>
915. *Ph501 Problem Set 2*,
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926. *Ph501 Midterm Exam (October 2000)*,
http://puhep1.princeton.edu/~mcdonald/examples/ph501midterm_102300.pdf

Short Courses on Accelerator Physics

927. *A Short Course on Targetry for a Neutrino Factory and Muon Collider* (June 4, 2003)
<http://www.hep.princeton.edu/~mcdonald/mumu/target/targettrans38.pdf>
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