

Roger D. Jones

Selected Publications:

Fusion and Plasma Physics

Roger D. Jones, "Quantum Plasmas I: The convergence formalism," *Physics of Fluids*, **21**, p. 2186 (1978).

Roger D. Jones, "Quantum Plasmas II: The high frequency conductivity of a magnetized plasma," *Physics of Fluids*, **21**, p. 2191 (1978).

Roger D. Jones and A. Pytte "Bremsstrahlung in a magnetized plasma," *Physics of Fluids*, **22**, p. 2232 (1979).

Roger D. Jones and A. Pytte "Hamiltonian of a slightly relativistic plasma," *Physics of Fluids*, **23**, p. 269 (1980).

Roger D. Jones and A. Pytte "Kinetic equation of a slightly relativistic plasma," *Physics of Fluids*, **23**, p. 273 (1980).

Roger D. Jones "Constants of motion in a helical magnetic field," *Physics of Fluids*, **24**, p. 564 (1981).

Roger D. Jones, C. H. Aldrich, and K. Lee, "Laser induced density profiles in an isothermal plasma," *Physics of Fluids*, **24**, p. 310 (1981).

Roger D. Jones and K. Lee, "Kinetic theory, transport, and hydrodynamics of a high-Z plasma in the presence of an intense laser field," *Physics of Fluids*, **25**, p. 2307 (1982).

B. Bezzerides, R. D. Jones, and D. W. Forslund, "Plasma mechanism for ultraviolet harmonic radiation due to intense CO₂ light," *Physical Review Letters*, **49**, p. 202 (1982).

R. D. Jones and W. C. Mead, "The physics of burn in magnetized Deuterium-Tritium plasmas," *Nuclear Fusion*, **26**, p. 127 (1986).

S. J. Gitomer, R. D. Jones, F. Begay, A. W. Ehler, J. F. Kephart, and R. Kristal, "Fast ions and hot electrons in the laser-plasma interaction," *Physics of Fluids*, **29**, p. 2679 (1986).

Roger D. Jones, "Surfaces in the interactions of intense long-wavelength laser light with plasmas," *Proceedings of the Second International Conference on Surface Waves in Plasmas and Solids*, Lake Ohrid, Yugoslavia September 5-11, 1985.

Roger D. Jones, "Magnetic surface waves in plasmas," *Physical Review Letters*, **51**, p. 1269 (1983).

R. D. Jones, W. C. Mead, S. V. Coggeshall, C. H. Aldrich, J. L. Norton, G. D. Pollack, and M. Wallace, "Self-focusing and filamentation of laser light in high-Z plasmas," *Physics of Fluids*, **31**, p. 1249 (1988).

S. V. Coggeshall, W. C. Mead, and R. D. Jones, "Flicker in small scale laser-plasma self-focusing," *Physics of Fluids*, **31**, p. 2750 (1988).

Biophysics and Medical Physics

R. D. Jones, Cheryl L. Lemanski, and Teresa J. Jones, "Theory of attachment in *Giardia*," *Biophysical Journal*, **44**, p. 185 (1983).

S. J. Gitomer and R. D. Jones, "Modeling of laser ablation and fragmentation of human calculi," *IEEE International Conference on Plasma Science*, **6C1**, p. 136 (1988).

S. J. Gitomer and R. D. Jones, "Laser-produced plasmas in medicine," *Laser-Tissue Interaction*, **1202**, p. 118 (1990); , " *IEEE Transactions on Plasma Science*, **19**, p. 1209 (1991) .

Machine Learning, Neural Networks, and Adaptive Control

R. D. Jones, Y. C. Lee, C. W. Barnes, G. W. Flake, K. Lee, P. S. Lewis, and S. Qian, "Function approximation and time-series prediction with neural networks," *Proceedings of the International Joint Conference on Neural Networks*, **June 17-21**, p. I-649 (1990).

R. D. Jones, Y. C. Lee, S. Qian, C. W. Barnes, K. R. Bisset, G. M. Bruce, G. W. Flake, K. Lee, L. A. Lee, W. C. Mead, M. K. O'Rourke, I. Poli, and L. E. Thode, "Nonlinear Adaptive Networks: A little theory, a few applications," *Cognitive Modeling in System Control*, **June 10-14**, (1990).

W. C. Mead, P. S. Bowling, S. K. Brown, R. D. Jones, C. W. Barnes, H. E. Gibson, J. R. Goulding, and Y. C. Lee, "Optimization and control of a small-angle negative ion source using an on-line adaptive controller based on the connectionist local spline neural network," *Nuclear Instruments and Methods in Physics Research*, **B72**, (1992).

R. D. Jones, "Machines that learn," *Los Alamos Science*, **21**, p. 195 (1993).

I. Poli and R. D. Jones, "A Neural Net model for prediction," *Journal of the American Statistical Association*, **89**, p. 117 (1994).

Economic and Business Simulation

M. Hawrylycz, R. D. Jones, V. Makhankov, and Dean Prichard, "Risk and Survival of Economic Agents," *Random and Computational Dynamics*, **5**, p. 213 (1997).