

Recent Publications

1. “*QED Electrical Conductivity using the 2PI Effective Action*,” M. E. Carrington and E. Kovalchuk; hep-ph/07050162.
2. “*Index Summation in Real Time Statistical Field Theory*,” M. E. Carrington, T. Fugleberg, D. S. Irvine and D. Pickering, Eur. Phys. J. **C50** 711 (2007).
3. “*The Soft Fermion Dispersion Relation at Next-to-Leading Order in Hot QED*,” M. E. Carrington; Phys. Rev. **D75**, 045019 (2007).
4. “*Statistical Field Theory*,” T. Fugleberg and M.E. Carrington, Proceedings of Theory Canada II, to be published in the Canadian Journal of Physics.
5. “*The Dynamics of Entanglement in the Adiabatic Search and Deutsch Algorithms*,” K. Choy, G. Passante, D. Ahrensmeier, M.E. Carrington, T. Fugleberg, R. Kobes and G. Kunstatter; quant-ph/0605040 - to be published in the Canadian Journal of Physics.
6. “*Gauge Invariance of the static fermion mass beying hard thermal loops* ,” M.E. Carrington and E. Mottola, Proceedings of the 7th International Conference on Strong and Electroweak Matter 2006 - SEWM 2006, Nuc. Phy. **A785**, 142 (2007).
7. “*Energy Flow in Acoustic Black Holes*,” K Choy, T Kruk, M.E. Carrington, T. Fugleberg, J. Zahn, R. Kobes, G. Kunstatter and D. Pickering, Phys. Rev. **D73** (2006) 104011.
8. “*Transport Theory Beyond Binary Collisions*,” M.E. Carrington, S. Mrowczynski, Phys. Rev. **D71**, 065007 (2005).
9. “*Contributions to Transport Theory from Multi-particle Interactions and Production Processes*”, M.E. Carrington, refereed paper published in the proceedings of ‘Strong and Electroweak Matter 2004’ June 16-19, Helsinki, Finland.
10. “*2PI Effective Action and Gauge Invariance Problems*,” M.E. Carrington, G. Kunstatter and H. Zaraket, Eur. Phys. J. **C42**, 253 (2005).
11. “*The 4PI Effective Action for ϕ^4 Theory*,” M.E. Carrington, Eur. Phys. J. **C35** 383 (2004).
12. “*Dielectric Functions and Dispersion Relations of Ultra-Relativistic Plasmas with Collisions*,” M.E. Carrington, T. Fugleberg, D. Pickering and M.H. Thoma, Can. J. Phys. **82**, 671 (2004).
13. “*Dileptons from Hot, Heavy, Static Photons*,” P. Aurenche, M.E. Carrington and N. Marchal, Phys. Rev. **D68**, 056001 (2003).
14. “*Scattering Amplitudes at Finite Temperature*,” M.E. Carrington, Hou Defu and R. Kobes, Phys. Rev. **D67** 025021 (2003).
15. “*Infrared behaviour of the pressure in $g\phi^3$ theory in 6 dimensions*,” M.E. Carrington, T.J. Hammond and R. Kobes, Phys. Rev. **D65** 067703 (2002).
16. “*Equilibration in an Interacting Field Theory*,” M.E. Carrington, R. Kobes, G. Kunstatter, D. Pickering and E. Vaz, Can. J. Phys. **80** 987 (2002).
17. “*A General expression for Symmetry Factors of Feynman Diagrams*,” C.D Palmer and M.E. Carrington, Can. J. Phys. **80** 847 (2002).
18. “*Covariant approach to equilibration in effective field theories*,” Mark Burgess, M.E. Carrington and G. Kunstatter, Can. J. Phys. **80** 97 (2002).
19. “*A Diagrammatic Interpretation of the Boltzmann Equation*,” M.E. Carrington, Hou Defu, R. Kobes, Phys. Lett. **B523** 221 (2001).
20. “*Nonlinear Response from Transport Theory and Quantum Field Theory at Finite Temperature*,” M.E. Carrington, Hou Defu, R. Kobes, Phys. Rev. **D64** 025001 (2001).

21. “*Spontaneous Symmetry Breaking for Scalar QED with Nonminimal Chern-Simons Coupling*,” D.S. Irvine, M.E. Carrington, G. Kunstatter and D. Pickering, *Phys. Rev.* **64** 045015 (2001).
22. “*Spontaneous Scale Symmetry Breaking in 2+1 Dimensional QED at Both Zero and Finite Temperature*,” M.E. Carrington, WF Chen and R. Kobes, *Eur. Phys. J* **C18** 757 (2001).
23. “*Approach to Equilibrium in the Micromaser*,” D. Leary, S. Yau, M.E. Carrington, R. Kobes and G. Kunstatter, *Can. J. Phys.* **79** 783 (2001).
24. “*KMS conditions for 4-point green functions at finite temperature*,” M.E. Carrington, Hou Defu and J.C. Sowiak, *Phys. Rev.* **D62** 065003 (2000)
25. “*Shear Viscosity in ϕ^4 Theory from an Extended Ladder Resummation*,” M.E. Carrington, Hou Defu and R. Kobes, *Phys. Rev.* **D62** 085013 (2000).
26. “*Four-Point Spectral Functions and Ward Identities in Hot QED*,” Hou Defu, M.E. Carrington, R. Kobes and U. Heinz, *Phys. Rev.* **D61** 085013 (2000).
27. “*A New Formulation of a 1+1 Dimensional Field Theory Constrained to a Box*,” M.E. Carrington, R. Kobes and G. Kunstatter, *Phys. Rev.* **D61** 125008 (2000).
28. “*Evaluating Real Time Finite Temperature Feynman Amplitudes*,” M.E. Carrington, Hou Defu, A. Hachkowski, D. Pickering and J.C. Sowiak, *Phys. Rev.* **D61** 25011 (2000).
29. “*Two-Loop Quantum Corrections of Scalar QED with non-Minimal Chern-Simons Coupling*,” M.E. Carrington, W.F. Chen, G. Kunstatter and J. Mottershead, *Phys. Rev.* **D60** 125018 (1999).
30. “*Equilibrium and Non-Equilibrium Hard Thermal Loop Resummation in the Real Time Formalism*,” M.E. Carrington, Hou Defu and Markus Thoma, *Eur. Phys. J.* **C7** 347 (1999).
31. “*Ward Identities in Non-Equilibrium QED*,” M.E. Carrington, Hou Defu and Markus Thoma, *Phys. Rev.* **D58** 085025 (1998).
32. “*The General Cancellation of Ladder Graphs at Finite Temperature*,” M.E. Carrington and R. Kobes, *Phys. Rev.* **D57** 6372 (1998).
33. “*Cancellation of Ladder Graphs in an Effective Expansion*,” M.E. Carrington, R. Kobes and E. Petitgirard, *Phys. Rev.* **D57** 2631 (1998).
34. “*The Effective Action For a Relativistic Jaynes-Cummings Model*,” M. Burgess, M.E. Carrington and G. Kunstatter, *Can. J. Phys.* **76** 1 (1998).
35. “*Three Point Functions at Finite Temperature*,” M.E. Carrington and U. Heinz, *Eur. Phys. J.* **C1** 619 (1998).
36. “*The Bosonization of Theories with Pseudo-vector Interactions*,” M.E. Carrington, *Z. Phys. C.* **72** 531 (1996).