

Publications:

1. "A Two-colour Raman Polarization Experiment and Structure of a Chlorophyll Dimer in Solution", J.A. Koningstein, S.J. Desjardins, Y. Liu, P. Myslinski and Y. Shen in *J. Raman Spec.* 20 705-706 (1989).
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3. "Correlation States of ethylene: quantitative comparisons between synchrotron photoelectron spectroscopy and theoretical calculations", S.J. Desjardins, A.D.O. Bawagan and K.H. Tan in *Chem. Phys. Lett.* 196 (3,4) 261-266 (1992).
4. "Coincidence electron-scattering experiments: the statistics of coincidence counting", L.A. Graham, S.J. Desjardins and A.D.O. Bawagan in *Can. J. Chem.* 71 216-226 (1993).
5. "The interesting photon energy dependence of a correlation peak of ethylene", S.J. Desjardins, A.D.O. Bawagan, K.H. Tan, Y. Wang and E.R. Davidson in *Chem. Phys. Lett.* 227 519-526 (1994).
6. "Correlation states of ethylene", S.J. Desjardins, A.D.O. Bawagan, Z.F. Liu, K.H. Tan, Y. Wang and E.R. Davidson in *J. Chem. Phys.* 102 (16) 6385-6399 (1995).
7. "Study of correlation states of acetylene by synchrotron photoelectron spectroscopy", M.S. Moghaddam, S.J. Desjardins, A.D.O. Bawagan, K.H. Tan, Y. Wang and E.R. Davidson in *J. Chem. Phys.* 103 (24) 10537-10547 (1995).
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9. "Image de-noising by a multi-directional diffusion equation", S.J. Desjardins and R. Vaillancourt in *C.R. Math. Rep. Acad. Sci. Canada* 24 (2) 77-84 (2002).
10. "Microlocal Analysis, Smooth Frames and Denoising in Fourier Space", R. Ashino, S.J. Desjardins, C. Heil, M. Nagase and R. Vaillancourt in *Asian Information – Science – Life* 1 (2) 153-160 (2002).
11. "Image restoration through microlocal analysis with smooth tight wavelet frames", R. Ashino, S.J. Desjardins, C. Heil, M. Nagase and R. Vaillancourt in "Theoretical development and feasibility of mathematical analysis on the computer", RIMS Kokyuroku, Kyoto no. 1286 101-118 (2002).
12. "Smooth Tight Frame Wavelets and Image Microlocalanalysis in the Fourier Domain", R. Ashino, S.J. Desjardins, C. Heil, M. Nagase and R. Vaillancourt in *Computers and Mathematics with Applications* 45 1551-1579 (2003).
13. "Noise smoothing in the Fourier domain by a multi-directional diffusion", R. Ashino, S.J. Desjardins, A.A. Kolyshkin and R. Vaillancourt in *Scientific Proceedings of Riga Technical University, Computer Science* 16 27-43 (2003).
14. "Microlocal Filtering of Images with Parseval Wavelet Frames", R. Ashino, S.J. Desjardins, M. Nagase and R. Vaillancourt in "Advances in Scientific Computing and Applications" pages 22-31 Science Press, Beijing (2004).
15. "Pseudo-Differential Operators, Microlocal Analysis and Image Restoration", R. Ashino, S.J. Desjardins, C. Heil, M. Nagase and R. Vaillancourt in *Operator Theory: Advances and Applications* 155 187-202 (2004).

16. "Variable-step, variable-order 4-stage Hermite-Birkhoff-Obrechhoff ODE Solver of order 5 to 14", T. Nguyen-Ba, H. Yagoub, S.J. Desjardins and R. Vaillancourt in Scientific Proceedings of Riga Technical University, Computer Science 29 53-80 (2006).
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18. "Simulations and Analysis of Gravitationally Redshifted Kerr Black Hole Accretion Discs", B. Puzantian, S. Desjardins and C. Gigault, J.U.R.P. 27 (1) 13-16 (2019).