Optical design and engineering (1998 – present)

Michaud-Belleau, V., Gaudreau, M., Lacoursière, J., Boisvert, É., Ravelomanantsoa, L., Turner, D. D., and Rochette, L.: *The Atmospheric Sounder Spectrometer by Infrared Spectral Technology (ASSIST): instrument design and signal processing*, Atmos. Meas. Tech., 18, 3585–3609, https://doi.org/10.5194/amt-18-3585-2025, (2025).

A. Grégoire, N. Roy, M. Dupuis, S. Potvin, K.-A. Jahjah, J.-C. Bouchard, A. Martel and J. Lacoursière, *Development of a test bench for the assessment of digital processing efficiency in thermal imaging systems*, Proc. SPIE 12533 (2023).

J. Pazder, B. Bauman, D. Dillon, M. Fletcher, J. Lacoursière, V. Reshetov, *The optical alignment of the Gemini Planet Imager adaptive optics bench*, Proc. SPIE 8450 (2012).

J.-F. Lavigne, M. Doucet, M. Wang, J. Lacoursière, M. Grill, R. Melchiorri, T. G. Slanger, E. Kendall, *Study of the image quality and stray light in the critical design phase of the Compact Echelle Spectrograph for Aeronomical Research (CESAR)*, Proc. SPIE 7735 (2010).

R. Melchiorri, M. Grill, E. A. Kendall, E. Schiesser, T. G. Slanger, M. Radovan, J. Lacoursière, *Compact Echelle Spectrograph for Aeronomical Research*, American Geophysical Union (AGU), 2010 Fall Meeting, abstract A13B-0213.

S. Thibault, J. Lacoursière, *Advanced fiber coupling technologies for space and astronomical applications*, Proc. SPIE 5578, pp. 40-51 (December 2004).

A. Bergeron, H. Jerominek, J. Lacoursière, N. Desnoyers, C. Alain, P. Laou*, Novel lightweight uncooled thermal weapon sight*, Proc. SPIE 5406, pp. 402-411 (August 2004).

S. Thibault, J. Lacoursière, M. Doucet, M. Wang, J. Reecht*, Optical design and tolerances of wide-field imagers for astronomical survey*, Proc. SPIE 5173, pp. 87-98 (November 2003).

S. Thibault, J. Lacoursière, E. Artigaut, P. Vallee, R. Doyon, *Optical design of CPAPIR, a cryogenic IR camera for OMM*, Proc. SPIE 4832, pp. 320-327 (December 2002).

J. Lacoursière, M. Doucet, E. O. Curatu, M. Savard, S. Verreault, S. Thibault, P. C. Chevrette, B. Ricard, *Large-deviation achromatic Risley prisms pointing systems*, Proc. SPIE 4773, pp. 123-131 (June 2002).

Atomic and molecular physics (1988 – 1998)

J. Lacoursière, S.A. Meyer, G.W. Faris, T.G. Slanger, B.R. Lewis, S.T. Gibson, *The $O(^1D)$ yield from O_2 photodissociation near H Lyman-α (121.6 nm)*, J. Chem. Phys. **110** (1999) 1949-1958.

J. Lacoursière, M. J. Dyer, and R. A. Copeland, *Temperature dependence of the collisional energy transfer of $OH(\upsilon = 10)$ between 220 and 310 K*, J. Chem. Phys., **118** (2003) 1661-1666.

E. S. Hwang, J. Lacoursière, R. A. Copeland, T. G. Slanger, *Collisional removal of NO($B\ ^2\Pi$, $\upsilon = 2,3$) at 230 K*, J. Chem. Phys. **107** (1997) 4522-4526.

M. Meyer, L. Nahon, J. Lacoursière, M. Gisselbrecht, P. Morin, M. Larzillière, *Resonance-enhanced two-photon ionization of He and Xe using a mode-locked Ar^+ laser synchronized to VUV synchrotron radiation pulses*, J. Elec. Spectros. Rel. Phenom., **79** (1996) 343-346.

M. Meyer, J. Lacoursière, L. Nahon, M. Gisselbrecht, P. Morin, M. Larzillière, *Atomic autoionization studied by pump-probe experiments using laser and synchrotron radiation*, Proc. of the 5th International Workshop on Autoionization Phenomena in Atoms, Dubna, Russia, Dec. 12-14 1995, V. V. Balashov, A. N. Grum-Grzhimailo and E. A. Romanovsky Eds., Moscow University Press 1996. **Invited paper**.

L. Nahon, M. Meyer, J. Lacoursière, M. Gisselbrecht, P. Morin, M. Larzillière, *New developments in the laser + synchrotron combination and synchronization*, Proceedings of the Oji International Seminar on Atomic and Molecular Photoionization (Tsukuba, Sept. 4-7, 1995), A. Yagishita and T. Sasaki eds., Universal Academy Press, Tokyo.

M. Meyer, J. Lacoursière, M. Simon, P. Morin, *Fluorescence-photoion-coincidence spectroscopy on ICN core excited molecules*, Rev. Sci. Instrum., **66** (2) (1995) 1554-1557.

J. Lacoursière, M. Meyer, L. Nahon, P. Morin, M. Larzillière, *Resonance-enhanced two-photon ionization of He using an Ar^+ mode-locked laser synchronized with VUV synchrotron radiation pulses*, Seventh International Symposium on Resonance Ionization Spectroscopy (RIS '94), Bernkastel-Kues, Germany, 3-8 July 1994, AIP Conference Proceedings 329, pp. 423-426, H.-J. Kluge, J. E. Parks, K. Wendt Eds., AIP Press 1995, New York.

J. Lacoursière, M. Meyer, L. Nahon, P. Morin, M. Larzillière, *Time-resolved pump-probe photoelectron spectroscopy of helium using a mode-locked laser synchronized with synchrotron radiation pulses*, Nucl. Instrum. Methods Phys. Res. A **351** (1994) 545-553.

K. Boudjarane, J. Lacoursière, M. Larzillière, *Hyperfine structure of first negative system of $^{14}N_2^+$ and $^{15}N_2^+$ from LIF measurements*, J. Chem. Phys. **101** (1994) 10274-10282.

M. Meyer, J. Lacoursière, P. Morin, F. Combet-Farnoux, *Autoionisation of the 5s-np resonances of atomic iodine,* J. Phys. B **27** (1994) 3875-3889.

M. Meyer, J. Lacoursière, M. Simon, P. Morin, M. Larzillière, *Fluorescence-photoion-coincidence spectroscopy on inner shell excited molecules*, Chem. Phys. **187** (1, 2) (1994) 143-152.

M. Larzillière, J. Lacoursière, M. Chafik el Idriss, N. Varfalvy, P. Lafleur, A.J.Ross, *Fast ion beam laser spectroscopy of CO_2^+: laser induced fluorescence of the $A\ ^2\Pi_u$ - $X\ ^2\Pi_g$ electronic transition*, Phys. Rev. A **48** (1) (1993) 471-478.

M. Meyer, J. Lacoursière, P. Morin, *The 5s-np resonances of atomic iodine,* 1992, Conference proceedings, International Workshop on Photoionisation (IWP '92), Berlin, published by AMS Publishing Corporation, pp.177-178, U. Becker, U. Heinzmann Eds.

I. Nenner, P. Morin, M. Meyer, J. Lacoursière, L. Nahon, *Two color experiments in molecules*, 1994, Proceedings of the NATO Advanced Study Institute (ASI) on "New directions in research with third-generation soft X-ray synchrotron radiation sources", Maratea, Italy, June 28th-July 10th 1992, Kluwer Academic Publishers, NATO ASI Series, Series E: Applied Sciences-Vol 254, pp.129-160, A. S. Schlachter and F. J. Wuilleumier Eds.

Seminars

J. Lacoursière, *Conception optique et instruments astronomiques*, Club d'astronomie Cassiopée, Sillery (Québec), 8 septembre 2003. **Invité**.

M. Meyer, J. Lacoursière, L. Nahon, M. Gisselbrecht, P. Morin, M. Larzillière, *Pump-probe experiments using laser and synchrotron radiation* , Canadian Association of Physicists (CAP) 1996 Congress, Ottawa, 16-19 June 1996. **Invited paper**.