François HENAULT
Optical Engineering Consulting LTD
France

INGENIEUR EN OPTIQUE
Instruments Astronomiques, Optique Spatiale, Interférométrie

EXPERIENCE PROFESSIONNELLE

Depuis 2024 **OPTICAL ENGINEERING CONSULTING**
Directeur. Ingéniieur système et optique d'instruments complexes: Senseurs de front d'onde, Imagerie hyperspectrale, Concentrateurs d'énergie, Interférométrie stellaire ou à frange noire, Coronographie.

2011-2023 **IPAG CNRS** (Observatoire de Grenoble)
Responsable du Service Instrumentation.
Ingénieur système, études optiques et management sur les projets HARMONI et MAORY (instruments de première lumière pour l'ELT européen), Cherenkov Telescope Array (CTA, observatoire de rayons gamma), Nearby Earth Astrometric Telescope (NEAT, projet d'instrument spatial) et SPIRou (spectro-polarimètre infrarouge pour le CFHT).
Chef de projet et ingénieur optique de la R&D ASONG/PHASONG.

2006-2011 **OCA CNRS** (Observatoire de la Côte d'Azur)
Etudes optiques, ingénierie système et management sur les projets VEGA/CHARA, PERSEE/Pégase et POPS/VLTI.
Conception du système de cophasage du banc interférométrique SIRIUS.
Chef de projet local sur PERSEE, au sein d'un Consortium constitué du CNES, de l'ONERA, de l'IAS, du LESIA et de Thales Alenia Space.

2001-2005 **CRAL CNRS** (Observatoire de Lyon)
Responsable du Service Optique.
Design, réalisation et tests de spectromètres à champ complet pour l'astronomie : SNIFS pour le télescope de 2 m de l'Université d'Hawaii, NIRSpec pour le JWST, et MUSE pour le VLT. Chef de projet de l'instrument MUSE (2003-2005).

1994 – 2000 **ALCATEL Space**
Chef de projet et responsable technique de la maquette du combineur de faisceaux de l'interféromètre DARWIN, pour l'ESA (mission de détection d'exo-planètes).
Programme IASI[1] (clients CNES et EUMETSAT) : successivement responsable technique du sous-système interféromètre, puis architecte optique de l'ensemble de l'instrument.
Gestion d'équipe, collaboration avec plusieurs sous-contractants européens.
Participation à plusieurs réponses ou dépouillements d'appel d'offres.

1988 - 1993 **AEROSPATIALE** (Division Systèmes Stratégiques et Spatiaux)
Chargé de l'intégration et du réglage optique du télescope cryogénique du satellite ISO, pour l'ESA[2]. Etude approfondie des méthodes de mesures interférométriques.
Responsable d'une équipe de 5 personnes. Collaborations avec DSS, CSL, AMOS, REOSC.
Autres programmes : HELIOS I et II, Météosat, MERIS.

[1] Mission météorologique basée sur un spectromètre à transformée de Fourier (FTS).
[2] Lancé en novembre 1995, ISO a parfaitement accompli sa mission.

1983 - 1987 **IMP CNRS** Odeillo ("Four Solaire de 1000 kW")
Etude et amélioration de la concentration du rayonnement sur les installations du four solaire de 1000 kW et de la centrale THEMIS. Thèse de Docteur en Sciences.
Application aux rentrées de corps dans l'atmosphère (radômes, navette HERMES).

DIVERS

36 articles dont 25 en premier auteur.
100 communications dont 42 en premier auteur.
Stages au CNRS et à la CILAS (Marcoussis).
Stages d'encadrement, analyse transactionnelle, et accompagnement.
Habilitation au travail en salle blanche Classe 100.

FORMATION

2010	Habilitation à Diriger des Recherches de l'Université de Nice-Sophia Antipolis.
1987	Docteur en Sciences de l'Université Paris XI, mention Optique et Photonique.
1983	Diplôme d'Ingénieur de l'Ecole Supérieure d'Optique (Orsay).
1980	Maths sup/spé au Lycée du Parc, à Lyon.
1978	Bac C (mention bien) au Lycée Vincent d'Indy, à Privas.

LANGUES

Anglais lu, parlé et écrit couramment.
Espagnol et Italien, lus.

LOGICIELS

MS Office, MS Project, ASP. Langages Mathematica, IDL, HTML et FORTRAN sous Windows et Unix.
Optique : ZEMAX, CODE V et ASAP. Ai moi-même développé un logiciel de tracé de rayons en FORTRAN.

HOBBIES

Sports de montagne, cinéma, jeux de rôle.

PERSONNALITE

Créatif mais rigoureux. Autonome. Souhaite établir le consensus par la discussion.

François HENAULT
Optical Engineering Consulting LTD
France

OPTICAL ENGINEER

Astronomical Instrumentation, Space Optics and Interferometry

PROFESSIONAL EXPERIENCE

Since 2024 **OPTICAL ENGINEERING CONSULTING**
Director. System and optical designer for complex instruments: Wavefront sensors, Hyperspectral imagers, Energy concentrators, Stellar or nulling interferometry, Coronagraphy.

2011-2023 **IPAG CNRS** (Observatoire de Grenoble)
Responsible of Instrumentation Department.
System engineering, optical design and management on HARMONI and MAORY projects (first-light instruments of European ELT), Cherenkov Telescope Array (CTA, gamma-ray observatory), Nearby Earth Astrometric Telescope (NEAT, space instrument project) and SPIRou (infrared spectro-polarimeter for CFHT). Project management and optical engineering of the ASONG/PHASONG R&D program.

2006-2011 **OCA CNRS** (Observatoire de la Côte d'Azur)
Optical studies, system engineering and management on VEGA/CHARA, PERSEE/Pégase and POPS/VLTI projects.
Design of a cophasing system for the SIRIUS interferometer test bench.
Local Project Manager for PERSEE Consortium incorporating CNES, ONERA, IAS (Orsay), LESIA (Paris Observatory) and Thales Alenia Space.

2001-2005 **CRAL CNRS** (Lyon Observatory)
Responsible of Optical Department.
Design, integration and tests of Integral Field Spectrometers for astronomy : SNIFS for the University of Hawaii (2-m telescope), NIRSpec for the JWST, and MUSE for the VLT. Project Manager of MUSE Instrument (2003-2005).

1994 - 2000 **ALCATEL Space**
Project manager and technical responsible of the DARWIN beam combiner breadboard, for the European Space Agency (exo-planet detection mission).
IASI Program[3] (for CNES and EUMETSAT agencies) : was successively technical responsible of the Interferometer and Hot Optics Subsystem (IHOS), then optical manager of the whole instrument.
Acquired experience on team management, collaborated with several European sub-contractors, participated to several ITT answers or evaluation boards.

1988 - 1993 **AEROSPATIALE** (Strategic and Space Systems Division)
In charge of the optical integration and alignment of the cryogenic telescope of the ISO satellite, for ESA[4]. Have developed specific interferometric measurement methods.
Managed a small team (5 persons) and collaborated with DSS, CSL, AMOS, REOSC.
Occasionally worked on other programs : HELIOS I and II, Météosat, MERIS.

[3] Meteorological mission based upon a Fourier transform spectrometer (FTS).
[4] Launched in Nov. 1995, ISO has successfully performed its mission.

1983 - 1987	**IMP CNRS** Odeillo ("1 MW Solar Furnace") For the French Research Agency (CNRS), studied and optimized the concentrating efficiency of large-scale solar installations, i.e. the 1000 kW solar furnace and THEMIS experimental power plant. Post-Ph.D. activity : space and military applications (rocket cones, HERMES space shuttle).

MISCELLANEOUS

36 publications (25 as first author).
100 communications (42 as first author).
Seasonal works at the CNRS and "Compagnie Industrielle des Lasers" (CILAS).
Various seminars on management, transactional analysis, coaching.
Qualified to Class 100 clean rooms.

EDUCATION

2010	"Habilitation à Diriger des Recherches" of the Nice-Sophia Antipolis University.
1987	Ph.D. : "Docteur en Sciences" of the Paris XI University, Optics and Photonics specialty.
1983	Graduate from the "Ecole Supérieure d'Optique" of Orsay, France.

LANGUAGES

French, mother tongue.
English, fluent.
Spanish and Italian, readable.

COMPUTER SKILLS

MS Office, MS Project, ASP. Mathematica, IDL, HTML and FORTRAN programming languages under Windows or Unix.
Optical programs : ZEMAX, CODE V and ASAP. Have developed my own ray-tracing software in FORTRAN.

HOBBIES

Mountaineering, cinema, role-playing games.

PERSONAL ATTRIBUTES

Creative, rigorous, autonomous. Agreement is my preferred way of management.

PUBLICATIONS

F. Hénault, C. Royère, "Concentration du rayonnement solaire : analyse et évaluation des défauts de réglage de facettes réfléchissantes," Revue de Physique Appliquée vol. 24, p. 563-576 (1989).

F. Hénault, C. Royère, "Concentration du rayonnement solaire : analyse et évaluation des réponses impulsionnelles et des défauts de réglage de facettes réfléchissantes," Journal of Optics (Paris) vol. 20, n° 5, p. 225-240 (1989).

F. Hénault, B. Bonduelle, "Modèle de calcul des flux au foyer du four solaire de 1000 kW d'Odeillo. Un outil pour la recherche et le développement en thermique des matériaux," Entropie n° 146-147, p. 81-92 (1989).

F. Hénault, "Analysis of stellar interferometers as wavefront sensors," Applied Optics vol. 44, n° 22, p. 4733-4744 (2005).

F. Hénault, "Wavefront sensor based on varying transmission filters: theory and expected performance," Journal of Modern Optics vol. 52, n° 14, p. 1917-1931 (2005).

F. Hénault, "Conceptual design of a phase shifting telescope-interferometer," Optics Communications vol. 261, n° 1, p. 34-42 (2006).

F. Laurent, F. Hénault, P. Ferruit, E. Prieto, D. Robert, E. Renault, J.P. Dubois, R. Bacon, "CRAL activities on advanced image slicers: optical design, manufacturing, assembly, integration and testing," New Astronomy Reviews vol. 50, n° 4-5, p. 346-350 (2006).

F. Laurent, F. Hénault, E. Renault, R. Bacon, J.P. Dubois, "Design of an Integral Field Unit for MUSE, and results from prototyping," The Publications of the Astronomical Society of the Pacific vol. 118, n° 849, p. 1564-1573 (2006).

F. Hénault, "Design of achromatic phase shifters for spaceborne nulling interferometry," Optics Letters vol. 31, n° 24, p. 3635-3637 (2006).

F. Hénault, "Signal-to-noise ratio of phase sensing telescope interferometers," J. Opt. Soc. Am. A vol. 25, n° 3, p. 631-642 (2008).

F. Hénault, "Computing extinction maps of star nulling interferometers," Optics Express vol. 16, n° 7, p. 4537-4546 (2008).

F. Hénault, "Fibered nulling telescope for extra-solar coronagraphy," Optics Letters vol. 34, n° 7, p. 1096–1098 (2009).

F. Hénault, A. Spang, "Crossed-cosine intensity filter for coronagraphy and low order wavefront sensing," Optical Engineering vol. 48, n° 073608 (2009).

D. Mourard, J. M. Clausse, A. Marcotto, K. Perraut, I. Tallon-Bosc, P. Bério, A. Blazit, D. Bonneau, S. Bosio, Y. Bresson, O. Chesneau, O. Delaa, F. Hénault, Y. Hughes, S. Lagarde, G. Merlin, A. Roussel, A. Spang, P. Stee, M. Tallon, P. Antonelli, R. Foy, P. Kervella, R. Petrov, E. Thiebaut, F. Vakili, H. McAlister, T. ten Brummelaar, J. Sturmann, L. Sturmann, N. Turner, C. Farrington, P. J. Goldfinger, "VEGA: Visible spEctroGraph and polArimeter for the CHARA array: principle and performance," Astronomy and Astrophysics vol. 508, p. 1073-1083 (2009).

F. Hénault, "Multi-spectral piston sensor for co-phasing giant segmented mirrors and multi-aperture interferometric arrays," Journal of Optics A: Pure Applied Optics vol. 11, 125503 (2009).

F. Hénault, "Simple Fourier optics formalism for high angular resolution systems and nulling interferometry," JOSA A vol. 27, p. 435-449 (2010).

F. Hénault, A. Spang, "A variant of Young's double slit experiment for educational purposes," Physics Education vol. 46, p. 41-44 (2011).

F. Hénault, “Phase-shifting technique for improving the imaging capacity of sparse-aperture optical interferometers,” Applied Optics vol. 50, p. 4207-4220 (2011).

The CTA Consortium, “Introducing the CTA concept,”Astroparticle Physics vol. 43, p. 3-18 (2013).

D. Mourard, W. Dali Ali, A. Meilland, N. Tarmoul, F. Patru, J. M. Clausse, P. Girard, F. Hénault, A. Marcotto, N. Maucler, “Group and phase delay sensing for cophasing large optical arrays,” MNRAS vol. 445, p. 2082-2092 (2014).

F. Hénault, “Fast computation of solar concentrating ratio in presence of opto-mechanical errors,” Solar Energy vol. 112, p. 183-193 (2015).

F. Hénault, “Strehl ratio: a tool for optimizing optical nulls and singularities,” JOSA A vol. 32, p. 1276-1287 (2015).

A. Crouzier, F. Malbet, F. Henault, A. Léger, C. Cara, J. M. LeDuigou, O. Preis, P. Kern, A. Delboulbe, G. Martin, P. Feautrier, E. Stadler, S. Lafrasse, S. Rochat, C. Ketchazo, M. Donati, E. Doumayrou, P. O. Lagage, M. Shao, R. Goullioud, B. Nemati, C. Zhai, E. Behar, S. Potin, M. Saint-Pe, J. Dupont, “A detector interferometric calibration experiment for high precision astrometry,” Astronomy and Astrophysics vol. 595, A108 (2016).

M. Coquand, F. Hénault, C. Caliot, “Backward-gazing method for measuring solar concentrators shape errors,” Applied Optics vol. 56, p. 2029-2037 (2017).

F. Hénault, M. Coquand, P.-H. Defieux, C. Caliot, “Sun backward gazing method with multiple cameras for characterizing solar concentrators,” Solar Energy vol. 166, p. 103-114 (2018).

F. Hénault, “Analysis of azimuthal phase mask coronagraphs,” Optics Communications vol. 423, p. 186-199 (2018).

D. Defrère, O. Absil, J.P. Berger, T. Boulet, W. C. Danchi, S. Ertel, A. Gallenne, F. Hénault et al, “The path towards high-contrast imaging with the VLTI: the Hi-5 project,” Experimental Astronomy vol. 46, p. 475-495 (2018).

F. Hénault, “Fresnel diffraction analysis of Ronchi and reverse Hartmann tests,” JOSA A vol. 35, p. 1717-1729 (2018).

F. Hénault, A. Spang, Y. Feng, L. Schreiber, “Crossed-sine wavefront sensor for adaptive optics, metrology and ophthalmology applications,” Engineering Research Express vol. 2, n° 015042 (2020).

C. Pannetier, F. Hénault, “Shack–Hartmann versus reverse Hartmann wavefront sensors: experimental results,” Optics Letters vol. 45, p. 1746-1749 (2020).

J.-F. Donati *et al*, “SPIRou: NIR velocimetry and spectropolarimetry at the CFHT,” Monthly Notices of the Royal Astronomical Society volume 498, p. 5684-5703 (2020).

F. Hénault, C. Caliot, M. Coquand, P.-H. Defieux, E. Guillot, “Sun backward gazing method for measuring optomechanical errors of solar concentrators: experimental results,” Applied Optics vol. 59, p.9861-9877 (2020).

F. Hénault, “Analysis of circular gratings as image plane coronagraph filters,” Optics Communications vol. 519, n° 128431 (2022).

F. Hénault, “Space borne nulling interferometry with non-rotating telescope arrays,” Engineering Research Express vol. 5, n° 025042 (2023).

Y. Liu, Z. Liu, F. Hénault, A. Ortiz, M. Frain, Y. Feng, “Fraunhofer diffraction at the two-dimensional quadratically distorted (QD) grating arrays,” Optics Express vol. 31, p. 43522-43534 (2023).

F. Hénault, Y. Feng, J.-J. Correia, A. Spang, L. Schreiber, “Wavefront sensing with a Gradient Phase Filter,” Optics Communications vol. 574, n° 130910 (2025).

COMMUNICATIONS (First Author)

F. Hénault, J.L. Devaux, J.B. Ghibaudo, S. Matthews, C. Cinotti, "Contrôle de qualité image à température cryogénique sur le télescope du satellite ISO," ICSO'91, 25-27 septembre 1991, p. 181-201, Toulouse (1991).

F. Hénault, D. Miras, D. Scheidel, F. Boubault, "Infrared Atmospheric Sounding Interferometer (IASI) performance evaluation," 6th International Workshop on ASSFTS, San Juan Capistrano (1995).

F. Hénault, C. Buil, B. Chidaine, D. Scheidel, "Spaceborne infrared interferometer of the IASI instrument," Proceedings of the SPIE vol. 3437, p. 192-202 (1998).

F. Hénault, C. Buil, A. Copin, B. Chidaine, "How we split the IASI beamsplitter," Proceedings of the SPIE vol. 3786, p. 300-311 (1999).

F. Hénault, P.J. Hébert, C. Lucchini, D. Miras, "Geometrical misalignment retrieval of the IASI interferometer," Proceedings of the Europto Series vol. 3870, p. 159-170 (1999).

F. Hénault, R. Bacon, C. Bonneville, D. Boudon, R. Davies, P. Ferruit, G. Gilmore, O. Le Fèvre, J.P. Lemonnier, S. Lilly, S. Morris, E. Prieto, M. Steinmetz, T. de Zeeuw, "MUSE, a second-generation integral-field spectrograph for the VLT," Proceedings of the SPIE vol. 4841, p. 1096-1107 (2003).

F. Hénault, R. Bacon, R. Content, B. Lantz, F. Laurent, J.P. Lemonnier, S. Morris, "Slicing the Universe at affordable cost: The Quest for the MUSE Image Slicer," Proceedings of the SPIE vol. 5249, p. 134-145 (2003).

F. Hénault, R. Bacon, H. Dekker, B. Delabre, S. Djidel, J.P. Dubois, N. Hubin, B. Lantz, W. Lau, M. Le Louarn, I. Lewis, J.L. Lizon, J. Lynn, L. Pasquini, R. Reiss, M.M. Roth, "MUSE opto-mechanical design and performance," Proceedings of the SPIE vol. 5492, p. 909-920 (2004).

F. Hénault, "Wavefront sensing with varying transmission filters: Past, present and future," Proceedings of the SPIE vol. 5965, p. 339-350 (2005).

F. Hénault, "Telescope interferometers: an alternative to classical wavefront sensors," Proceedings of the SPIE vol. 7015, n° 70155N, (2008).

F. Hénault, "Fine art of computing nulling interferometer maps," Proceedings of the SPIE vol. 7013, n° 70131X (2008).

F. Hénault, "PSF and field of view characteristics of imaging and nulling interferometers," Proceedings of the SPIE vol. 7734, n° 773419 (2010).

F. Hénault, P. Girard, A. Marcotto, N. Mauclert, C. Bailet, J.-M. Clausse, D. Mourard, Y. Rabbia, A. Roussel, M. Barillot, F. Cassaing, J.-M. Le Duigou, "Review of OCA activities on nulling testbench PERSEE," Proceedings of the SPIE vol. 7734, n° 77342U (2010).

F. Hénault, "Simple alternative model of the dual nature of light and its Gedanken experiment," Proceedings of the SPIE vol. 8121, n° 81211J (2011).

F. Hénault, "Image plane phase-shifting wavefront sensor for giant telescope active and adaptive optics," Proceedings of the SPIE vol. 8149, n° 81490A (2011).

F. Hénault, "Imaging power of multi-fibered nulling telescopes for extra-solar planet characterization," Proceedings of the SPIE vol. 8151, n° 81510A (2011).

F. Hénault, P. Girard, A. Marcotto, N. Mauclert, C. Bailet, B. Lopez, F. Millour, Y. Rabbia, A. Roussel, M. Barillot, J. Lozi, F. Cassaing, K. Houairi, B. Sorrente, J. Montri, E. Lhomé, J.-M. Reess, L. Pham, T. Buey, V. Coudé du Foresto, S. Jacquinod, M. Olivier, J.-M. Le Duigou, "Design of a star, planet and exo-zodiacal cloud simulator for the nulling testbench PERSEE," Proceedings of the SPIE vol. 8151, n° 815116 (2011).

F. Hénault, “Phase-shifting fringe tracking method for sparse aperture interferometer arrays,” Proceedings of the SPIE vol. 8445, n° 84452U (2012).

F. Hénault, “Can violations of Bell’s inequalities be considered as the final proof of quantum physics ?,” Proceedings of the SPIE vol. 8832, n° 88321J (2013).

F. Hénault, P.O. Petrucci, L. Jocou, B. Khélifi, P. Manigot, S. Hormigos, J. Knödlseder, J.F. Olive, P. Jean, M. Punch, “Design of light concentrators for Cherenkov telescope observatories ,” Proceedings of the SPIE vol. 8834, n° 883405 (2013).

F. Hénault, A. Spang, “Cheapest nuller in the world: Crossed beamsplitter cubes,” Proceedings of the SPIE vol. 9146, n° 914604 (2014).

F. Hénault, “Imaging and nulling properties of sparse-aperture Fizeau interferometers,” Proceedings of the SPIE vol. 9146, n° 914618 (2014).

F. Hénault, A. Crouzier, F. Malbet, P. Kern, G. Martin, P. Feautrier, E. Staedler, S. Lafrasse, A. Delboulbé, J. M. Le Duigou, C. Cara, A. Leger, “NEAT breadboard system analysis and performance models,” Proceedings of the SPIE vol. 9150, n° 91500I (2014).

F. Hénault, “Quantum physics and the beam splitter mystery,” Proceedings of the SPIE vol. 9570, n° 95700Q (2015).

F. Hénault, “Fully achromatic nulling interferometer (FANI) for high SNR exoplanet characterization,” Proceedings of the SPIE vol. 9605, n° 960512 (2015).

F. Hénault, F. Laurent, “Optical design of a multi-resolution, single shot spectrograph,” Proceedings of the SPIE vol. 9908, n° 99083S (2016).

F. Hénault, B. Arezki, G. Bourdarot, A. Spang, “Experimental demonstration of a crossed cubes nuller for coronagraphy and interferometry,” Proceedings of the SPIE vol. 9907, n° 99072H (2016).

F. Hénault, A. Carlotti, C. Vérinaud, “Analysis of nulling phase functions suitable to image plane coronagraphy,” Proceedings of the SPIE vol. 9912, n° 99126K (2016).

F. Hénault, P.O. Petrucci, L. Jocou, B. Arezki, Y. Magnard, B. Khélifi, P. Manigot, J.F. Olive, P. Jean, M. Punch, “Testing light concentrators prototypes for the Cherenkov Telescope Array,” Proceedings of the SPIE vol. 10379, n° 103790B (2017).

F. Hénault, A. Carlotti, C. Vérinaud, “Phase-shifting coronagraph,” Proceedings of the SPIE vol. 10400, n° 104001J (2017).

F. Hénault, A. Carlotti, P. Rabou, Y. Magnard, E. Sradler, D. Mouillet, G. Chauvin, M. Bonnefoy, J.F. Sauvage, K. Dohlen, A. Vigan, T. Fusco, K. El Hadi, F. Clarke, N. Thatte, I. Bryson, H. Schnetler, M. Tecza, C. Vérinaud, “Opto-mechanical design of a High Contrast Module (HCM) for HARMONI,” Proceedings of the SPIE vol. 10702, n° 107028N (2018).

F. Hénault, C. Pannetier, “Hartmann vs. reverse Hartmann test: a Fourier optics point of view,” Proceedings of the SPIE vol. 11102, n° 111020C (2019).

F. Hénault, “New concepts for calibrating non-common path aberrations in adaptive optics and coronagraph systems,” Proceedings of the SPIE vol. 11117, n° 1111711 (2019).

F. Hénault, “Lord of the Ring Gratings: how using them as image plane filters for coronagraphy,” Proceedings of the SPIE vol. 12180, n° 1218059 (2022).

F. Hénault, “Nulling interferometry in space does not require a rotating telescope array,” Proceedings of the SPIE vol. 12180, n° 121803M (2022).

F. Hénault, “Field of View and contrast limitations of stellar interferometers: a quick review,” Proceedings of the SPIE vol. 12183, n° 1218326 (2022).

F. Hénault, Y. Feng, A. Spang, L. Schreiber, “Implementing the crossed-sine wavefront sensor for astronomy application with a single natural guide star,” Proceedings of the Adaptive Optics for Extremely Large Telescopes 7th Edition, Avignon (2023).

F. Hénault, G. Flamant, C. Caliot “Remote Measurement of Heliostat Reflectivity with the Backward Gazing Procedure,” SolarPaces 2023, 29th International Cnference on Concentrating Solar Power, Thermal, and Chemical Energy Systems (2024).

F. Hénault, G. Flamant, C. Caliot “Fast and accurate Computation of Flux Density formed by Solar Concentrators and Heliostats,” SolarPaces 2023, 29th International Cnference on Concentrating Solar Power, Thermal, and Chemical Energy Systems (2024).

F. Hénault, Y. Feng, J.-J. Correia, A. Spang, L. Schreiber, A. Ain “Optical design of PHASONG, a next generation wavefront sensor,” Proceedings of the SPIE vol. 13024, n° 130240J (2024).

F.s Hénault, Y. Feng, J.-J. Correia, A. Spang, L. Schreiber, “Wavefront sensing with PHASONG: The Phase Gradient Analyzer,” Proceedings of the SPIE vol. 13100, n°131007E (2024).

F. Hénault, L. Schreiber, “Sympathy for the Nulling,” Proceedings of the SPIE vol. 13092, n° 130925W (2024).

COMMUNICATIONS (Second Author)

B. Lantz, G. Aldering, P. Antilogus, C. Bonnaud, L. Capoani, A. Castera, Y. Copin, D. Dubet, E. Gangler, F. Hénault, J.P. Lemonnier, R. Pain, A. Pécontal, E. Pécontal, G. Smadja, “SNIFS: a wideband integral field spectrograph with microlens arrays,” Proceedings of the SPIE vol. 5249, p. 146-155 (2003).

N. Tarmoul, F. Hénault, D. Mourard, J.B. Le Bouquin, L. Jocou, P. Kern, J.P. Berger, O. Absil, “Multi-axial integrated optics solution for POPS, a 2nd-generation VLTI fringe tracker,” Proceedings of the SPIE vol. 7734, n° 773425 (2010).

F. Laurent, F. Hénault, “Collimating slicer for optical integral field spectroscopy,” Proceedings of the SPIE vol. 9912, n° 99125R (2016).

M. Coquand, C. Caliot, F. Hénault, “Tracking and shape errors measurement of concentrating heliostats,” Proceedings of the SPIE vol. 10379, n° 103790N (2017).

P.-H. Defieux, C. Caliot, F. Hénault, “Hybrid optical method for characterizing a heliostat field in a concentrated solar power plant,” SolarPACES 2020, AIP Conference Proceedings vol. 2303, n°100002 (2020).

Y. Feng, F. Hénault, L. Schreiber, A. Spang, “Development and implementation of crossed-sine wavefront sensor for simultaneous high spatial resolution imaging ,” Proceedings of the SPIE vol. 10379, n° 103790N (2020).

L. Schreiber, Y. Feng, A. Spang, F. Hénault, J.-J. Correia, E. Stadler, D. Mouillet, “The crossed-sine wavefront sensor: first tests and results,” Proceedings of the SPIE vol. 12188, n° 121883I (2022).

PRE-PRINTS

F. Hénault, G. Flamant, C. Caliot “Optimizing the concentration ratio of multi-faceted focusing heliostats,” submitted to Journal of Solar Energy E3ngineering (2024).

F. Hénault, Y. Feng, A. Spang, L. Schreiber, “Quantitative Wavefront sensing with static Foucault and pyramid tests,” submitted to Optics Communications (2024).

PATENTS

F. Hénault , C. Caliot, “Installation concentratrice de rayonnement cosmique équipée d'un système de contrôle de surface optique réfléchissante,” EP3123137B1.

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