

KIM MOREL

kim.morel@mail.mcgill.ca | github.com/kmorel2892 | 438-887-0253

Language Skills

French (fluent) | English (advanced)

Degrees

Doctor of Philosophy in Physics (ongoing) <i>McGill University</i> <ul style="list-style-type: none">Supervisor: Prof. Adrian Liu	2024/09 –
Master of Science in Physics (completed) <i>Université de Montréal, Trottier Institute for Research on Exoplanets (IREx)</i> <ul style="list-style-type: none">Supervisor: Prof. David Lafrenière	2022/09 – 2024/08
B. Sc. Physics – Specialization in Astrophysics (completed) <i>Université de Montréal</i> <ul style="list-style-type: none">Supervisor: Prof. David Lafrenière	2019/08 – 2022/05
B. Sc. Actuarial Mathematics (Co-op) (withdrawn) <i>Concordia University</i>	2018/08 – 2019/05

Employment

Teaching Assistant in Classical Mechanics I (PHY1651) <i>Université de Montréal - Physics Department</i>	2023/09 – 2023/12
Teaching Assistant in Classical Mechanics I (PHY1651) <i>Université de Montréal - Physics Department</i>	2022/09 – 2022/12
Teaching Assistant in Mechanics and Modern Physics (PHY1901) <i>Université de Montréal - Physics Department</i>	2020/09 – 2021/04

Research Experience

Master's thesis <i>Université de Montréal, IREx</i> <ul style="list-style-type: none">Thesis Title: Étude de l'atmosphère de la Jupiter chaude WASP-80 b par spectroscopie d'éclipse secondaire avec JWST/NIRISS (<i>Atmospheric Study of the Warm Jupiter WASP-80 b by Secondary Eclipse Spectroscopy with JWST/NIRISS</i>)Research Specialization Keywords: Exoplanet atmospheres, hot Jupiters observational astrophysics, space telescope, infrared light, data reduction, low-resolution spectroscopy, data analysis.	2022/09 – 2024/08
Bachelor's research project <i>Université de Montréal, IREx</i> <ul style="list-style-type: none">Title: Validation of the SOSS mode simulator for the JWST NIRISS instrumentResearch keywords: Transmission spectroscopy, exoplanet atmospheres, observational astrophysics, space telescope, infrared light, noise simulation.	2021/09 – 2021/12

Research intern	2021/05 –
<i>IREx</i>	2021/08

- Title: Validation of the SOSS mode simulator for the JWST NIRISS instrument
- Research keywords: Transmission spectroscopy, exoplanet atmospheres, observational astrophysics, space telescope, infrared light, data reduction, data simulation.

Research intern	2020/05 –
<i>IREx</i>	2020/08

- Title: Better cleaning of spectra for high dispersion spectroscopy with SPiRou
- Research keywords: Exoplanets, observational astrophysics, ground-based telescope, data reduction, optimization, infrared light, data simulation.

Recognitions

R. H. Tomlinson Doctoral Fellowship – 105,000\$	2024/09 –
<i>McGill University (Graduate and Postdoctoral Studies)</i>	2027/08

Commitment Scholarship – 3,000\$	2024/02
<i>Université de Montréal (Faculty of Arts and Science)</i>	

Lise Bachand and Lionel St-Jean Award – 5,000 \$	2023/12
<i>Université de Montréal</i>	

Master's Research Scholarship – 37,500\$	2022/09 –
<i>Fonds de recherche du Québec - Nature et technologies (FRQNT)</i>	2024/08

Undergraduate Student Research Award – 6,000\$	2021/05 –
<i>Natural Sciences and Engineering Research Council of Canada (NSERC)</i>	2021/08

Trottier scholarship for summer interns – 3,000\$	2020/05 –
<i>IREx</i>	2020/08

Undergraduate Student Research Award – 4,500\$	2020/05 –
<i>NSERC</i>	2020/08

Concordia University Entrance Scholarship Arts & Science – 2,500\$	2018/08 –
<i>Concordia University</i>	2019/05

Event Participation

Grande Conférence de l'IREx - Volunteer, Booth manager	2024/03/27
<i>Université de Montréal, IREx</i>	

Symposium Annuel de Physique (et Mathématiques) pour un Avenir en Recherche et en Industrie (SAPHARI) - Speaker	2024/03
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Canadian Conference for Undergraduate Women in Physics - Volunteer	2024/01
<i>Université de Montréal</i>	

Researchers' Night - Student-researcher, Demos	2023/11/10
<i>Espace pour la vie – Biosphère</i>	

AstroMIL - Volunteer, Booth manager	2023/10/14
<i>Université de Montréal, IREx</i>	

ComSciCon-Qc – Participant researcher	2023/06
<i>Polytechnique Montréal</i>	

Researchers' Night – Student-researcher, One-to-One discussions	2022/11/11
<i>Espace pour la vie - Jardin botanique</i>	

Community Activities and Memberships

Eclipse Ambassador	2023/07 –
<i>IREx</i>	2024/08
Treasurer (volunteer and member of the Board of Directors)	2022/11 –
<i>InitiaSciences</i>	
Member of the Graduates Committee	2021/09 –
<i>PHYSUM</i>	2022/05

Refereed Publications

Articles in Peer-Reviewed Journals

K. Morel , L.-P. Coulombe, J. F. Rowe, D. Lafrenière, L. Albert, É. Artigau, N. B. Cowan, L. Dang, M. Radica, J. Taylor, C. Piaulet-Ghorayeb, P.-A. Roy, B. Benneke, A. Darveau-Bernier, S. Pelletier, R. Doyon, D. Johnstone, A. B. Langeveld, R. Allart, L. Flagg and J. D. Turner (2024) A Moderate Albedo from Reflecting Aerosols on the Dayside of WASP-80 b Revealed by JWST/NIRISS Eclipse Spectroscopy. <i>The Astronomical Journal</i> . 22 pages.	Submitted 2024/09/26
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M. Fournier-Tondreau, R. J. MacDonald, M. Radica, D. Lafrenière, L. Welbanks, C. Piaulet, L.-P. Coulombe, R. Allart, K. Morel , + 18 co-authors (2024) Near-Infrared Transmission Spectroscopy of HAT-P-18 b with NIRISS: Disentangling Planetary and Stellar Features in the Era of JWST. <i>Monthly Notices of the Royal Astronomical Society</i> . 528: 3354–3377.	Published 2024/01/23
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L. Albert, D. Lafrenière, Doyon, R., É. Artigau, K. Volk, P. Goudfrooij, A. R. Martel, M. Radica, J. Rowe, N. Espinoza, A. Roy, J. G. Filippazzo, A. Darveau-Bernier, G. J. Talens, A. Sivaramakrishnan, C. J. Willott, A. W. Fullerton, S. LaMassa, J. B. Hutchings, N. Rowlands, M. Begona Vila, J. Zhou, D. Aldridge, M. Maszkiewicz, M. Beaulieu, N. J. Cook, C. Piaulet, P.-A. Roy, P. Lamontagne, K. Morel , +10 co-authors (2023) The Near Infrared Imager and Slitless Spectrograph for the James Webb Space Telescope. III. Single Object Slitless Spectroscopy. <i>Publications of the Astronomical Society of the Pacific</i> . 135:075001, 29 pages.	Published 2023/07/20
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Posters

K. Morel , D. Lafrenière, L. Albert, J. F. Rowe, É. Artigau, L.-P. Coulombe, N. B. Cowan, M. Radica, C. Piaulet, L. Dang, B. Benneke, J. Taylor, A. Darveau-Bernier (2024) Eclipse Spectroscopy of WASP-80 b with JWST/NIRISS Reveals the Presence of Reflecting Aerosols. The annual meeting of the Canadian Astronomical Society: CASCA-TO 2024.	2024/06/04 - 2024/06/06
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