



Research Field: PLANETARY ATMOSPHERE

Focused Field: Climate of Mars

SHORT BIO

Dr. Chow has many years of experience in researches about the atmospheres of Earth and Mars, particularly on the dynamics and climate of dust storms in recent years.

As the Co-Investigator and principle investigator of two projects funded by the FDCT of Macau, Dr. Chow has led the research group to study the dynamics of dust storms on Mars, and has obtained some research accomplishments that have substantially enhanced our understanding on the simulation and dynamics of the dust climate on Mars.

Dr. Chow was also participated in the first Mars exploration mission of China (Tianwen-1). His research group used the MarsWRF model to perform some high resolution simulations of the Martian climate and has made some analysis on the atmospheric conditions during the landing time. Based on the analysis, a best landing time period was proposed to the mission team.

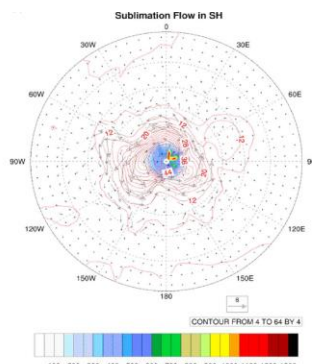
Associate Professor

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PhD: Mathematics – Hong Kong University of Science and Technology (HKUST)



Sublimation Flow of Mars
Chow et al., 2019

KEY PUBLICATIONS *(first / corresponding author)*

1. Chow, K. C. J. Xiao, Y. M. Wang, 2022: Simulation of dust activities in the southern high latitudes of Mars. *Planetary and Space Science*, v217, 105492.
2. Wang Y. M., Chow, K. C., J. Xiao, C. F. Wong, 2021: Effect of dust particle size on the climate of Mars. *Planetary and Space Science*, v208, 105346.
3. Chow, K. C., J. Xiao, K. L. Chan, C. F. Wong, 2019: Flow associated with the condensation and sublimation of polar ice caps on Mars. *Journal of Geophysical Research – Planets*, v124, 1570-1580.
4. Xiao, J., K. C. Chow, K. L. Chan, 2019: Dynamical Processes of Dust Lifting in the northern Mid-latitude region of Mars during the Storm Season. *Icarus*, v317, 94 - 103.

PROFESSIONAL EXPERIENCE

Jul. 2023 – Associate Professor, Macau University of Science and Technology.

Jan. 2016 – Jul. 2023 Assistant Professor, Macau University of Science and Technology.

Jan. 2009 – Jan. 2016 Lecturer, Department of Mathematics, HKUST.

Nov. 2007 - Dec. 2008 Research Assistant Professor / Research Associate, HKUST Fok Ying Tung Graduate School.

Feb. 2003 - Sep. 2007 Senior research assistant / Instructor, City University of Hong Kong.

Feb. 2006 - May 2006 Visiting Scientist, Abdus Salam International Centre for Theoretical Physics, Italy.

Nov. 2001 - Sep. 2002 Postdoctoral researcher, National Oceanography Centre, University of Southampton, UK..

GRANTS

FDTC: 2023- Ongoing – P. I., The Interaction of Water Cycle and Dust Processes in the Atmosphere of Mars.

NSFC-FDTC : 2023- Ongoing – P. I., Research on the Dynamics of Surface Dust Processes of on Mars and its Application

FDTC: 2019-2022 – P. I., Rapid Development of Dust Storms on Mars – Dynamics and its Parameterization.

FDTC: 2019-2022 – P. I., Theoretical Study of the Habitable Zones around M Dwarfs