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### **EDUCATION**

2010/09 – 2022/02 Ph.D. Depart. of Atmospheric Science, National Taiwan University, Taiwan

2006/09 – 2008/08 M.S. Depart. of Atmospheric Science, National Taiwan University, Taiwan

2002/09 – 2006/08 B.A. Depart. of Atmospheric Science, National Taiwan University, Taiwan

### **EMPLOYMENT**

2022/03 – present Postdoctoral Researcher RCEC, Academia Sinica, Taiwan

2008/09 – 2010/08 Research Assistant Depart. of Atmospheric Science, National Taiwan University, Taiwan

### **RESEARCH INTEREST**

Aerosol-cloud interactions, cloud macrophysics, cloud microphysics

### **RESEARCH HIGHLIGHTS**

#### **Unification of cloud macro- and micro-physics scheme in global climate models**

A kinetic condensation method (KCM) was developed to remove the saturation adjustment assumption and resolve the condensation process in the grid-scale cloud macrophysics scheme to build an integrated stratiform cloud physics scheme for global climate models. By applying a saturation prediction equation with calculations based on cloud hydrometeor properties, supersaturation or undersaturation can be resolved within the macrophysics scheme. This treatment provides the basis for condensation calculation. It allows the Wegener–Bergeron–Findeisen process to be resolved explicitly to render a realistic liquid–ice partition in mixed-phase clouds. KCM provides a theoretical-based way to determine the cloud liquid and ice partition rather than linearly depending on temperature.

Reference: Pi and Chen, 2021

### **REPRESENTATIVE PUBLICATIONS**

1. **Chia-Jung Pi**, Jen-Ping Chen. “Integrated cloud macro- and micro-physics schemes with kinetic treatment of condensation processes for global models.” *Atmospheric Research*. 261, 105745. doi: 10.1016/j.atmosres.2021.105745

2. Longtao Wu, J.-L. F. Li, **Chia-Jung Pi**, Jia-Yuh Yu, and Jen-Ping Chen. “An observationally based evaluation of WRF seasonal simulations over the Central and Eastern Pacific.” *Journal of Geophysical Research: Atmospheres*. 120, doi: 10.1002/2015JD023561
3. Werner Alpers, Jen-Ping Chen, **Chia-Jung Pi**, and I.-I. Lin. “On the Origin of Atmospheric Frontal Lines off the East Coast of Taiwan Observed on Spaceborne Synthetic Aperture.” *Monthly Weather Review*. 138, doi: 10.1175/2009MWR2987.1