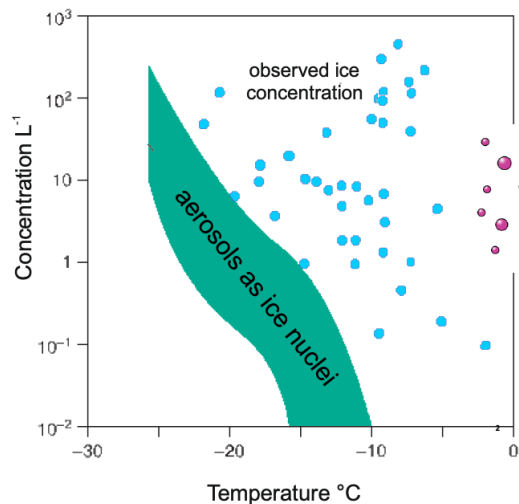
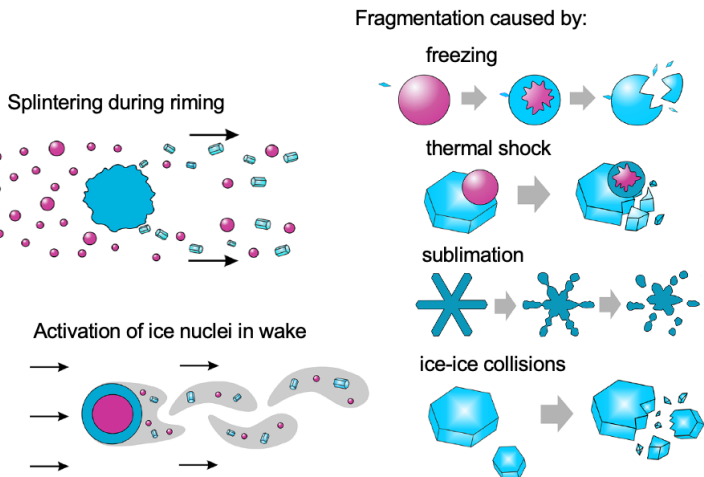


Announcement: Two Postdoctoral Positions (2-years) in Ice Multiplication – Solving the longest standing puzzle in cloud physics



Adapted from Lamb and Verlinde (2011)

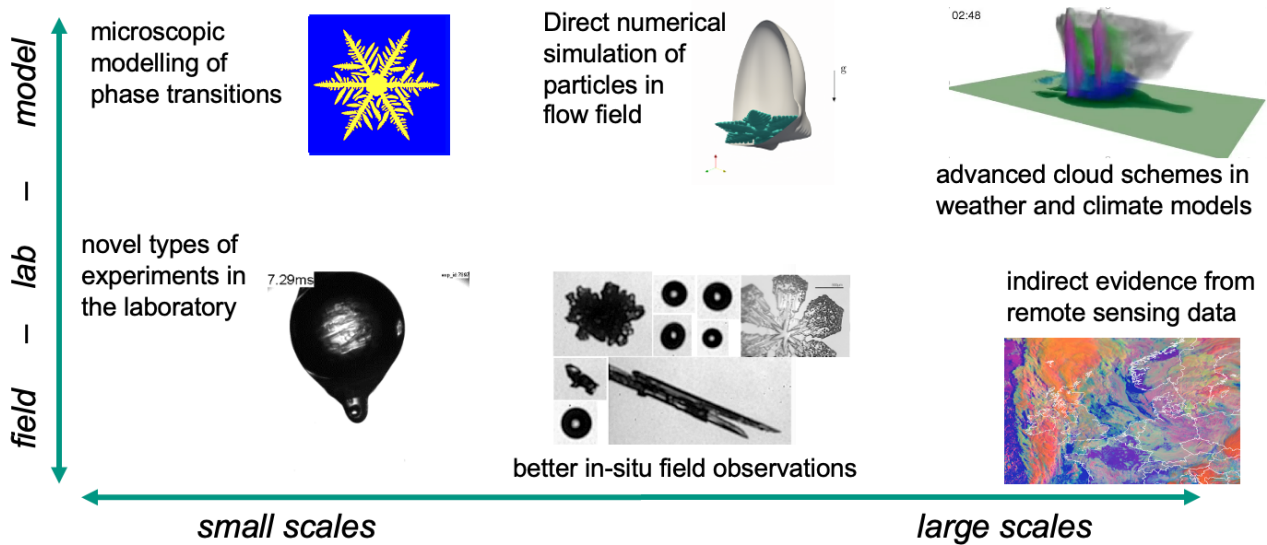


Adapted from Korolev and Leisner (2021)

Ice formation in clouds plays an important role both for **precipitation formation and climate**. It is generally assumed that most ice in clouds warmer than about -36°C forms heterogeneously, i. e. at the surface of an aerosol particle acting as ice nucleus. It has been known for long that in many clouds the concentration of ice particles exceeds the concentration of suitable aerosols by several orders of magnitude. This apparent contradiction may be explained by secondary ice processes (see figure), which may cause an avalanche process of ice formation, the so-called ice multiplication. Up to date, in situ observations and laboratory experiments have been inconclusive in identifying the importance and effectiveness of each of these processes under real cloud conditions. Therefore, ice multiplication is only very crudely included in cloud and weather models.

Recent progress in **material science, fluid dynamics, laboratory experiments, cloud modelling, in-situ observations and remote sensing** allows now to assess ice multiplication processes in much better detail. Within an interdisciplinary project, 6 PIs from these research areas come together to start solving the ice multiplication puzzle:

Prof. Dr. Corinna Hoose (corinna.hoose@kit.edu) – cloud modelling
 Prof. Dr. Thomas Leisner (thomas.leisner@kit.edu) – laboratory experiments
 Prof. Dr. Britta Nestler (britta.nestler@kit.edu) – material sciences
 Prof. Dr. Markus Uhlmann (markus.uhlmann@kit.edu) – fluid mechanics
 Prof. Dr. Jan Cermak (jan.cermak@kit.edu) – satellite remote sensing
 Dr. Emma Järvinen (emma.jarvinen@kit.edu) – aircraft observations



We are looking for **2 postdoctoral researchers** to work with us for **2 years** across scales and with different experimental and computational methods. We are looking for individuals who have previous experience in at least one of the areas depicted above, and a strong interest to connect to another one. The work plan for the two positions will be defined in a dialogue between the postdoctoral researchers and the PIs. Both positions are **available from 1st February 2022 or as soon as possible thereafter**.

We are looking for highly motivated, independent candidates and offer them a dynamic work environment. KIT, the research university within the Helmholtz Association, combines three core tasks — research, education and innovation — into a single mission. With 9,400 employees and 25,000 students, it is one of the largest institutions of research and higher education in natural sciences and engineering in Europe. KIT's Institute of Meteorology and Climate Research (IMK) is one of Germany's largest research institutes for atmospheric sciences. KIT offers attractive programs for early-career researchers (<http://www.khys.kit.edu>). KIT actively supports equality, diversity and inclusion, and as an equal opportunity employer, KIT explicitly encourages applications from women as well as from others with diverse backgrounds and perspectives. Applicants with disabilities will be preferentially considered if suitably qualified. Payment of the position is according to TV-L E 13.

Please send applications for these positions to **Corinna Hoose** (corinna.hoose@kit.edu), including (in one pdf file) a letter of motivation, CV, certificates/transcripts of records, preferred starting date, and names of at least two referees.

Review of applications for the positions will start on **December 15, 2021**, and will continue until the positions are filled.

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