

WHAT DO MINERAL DISSOLUTION AND PRECIPITATION EXPERIMENTS TELL US ABOUT ION MOBILITY IN NATURAL FLUIDS?

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The understanding of ion mobility in natural fluids is essential for a deeper insight into a huge variety of natural and anthropogenic processes at physicochemical conditions near the Earth's surface. Substantial tasks comprise mechanisms of e.g. soil formation, plant toxicity, man-made barrier systems to entrap toxic ions, and water treatment. Experimental studies on the dissolution and precipitation kinetics of minerals can provide a fundamental knowledge about the mobility of ions in such environments.

New data on the dissolution and precipitation kinetics of minerals with different composition and structure are presented. Special emphasis will be put on kinetic data for dissolution of carbonates and sheet silicates, and how experimental data may be used to assess the importance of reactions at the interface between water and solid phases. Finally potential technical applications from mineral dissolution and precipitation studies will be discussed.

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Zeitschrift/Journal: [Berichte des Institutes für Geologie und Paläontologie der Karl-Franzens-Universität Graz](#)

Jahr/Year: 2004

Band/Volume: [9](#)

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