

THE MECHANICAL BEHAVIOUR ... AND ... FAILURE MODE OF SUEVITE



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H. ALBERT GILG

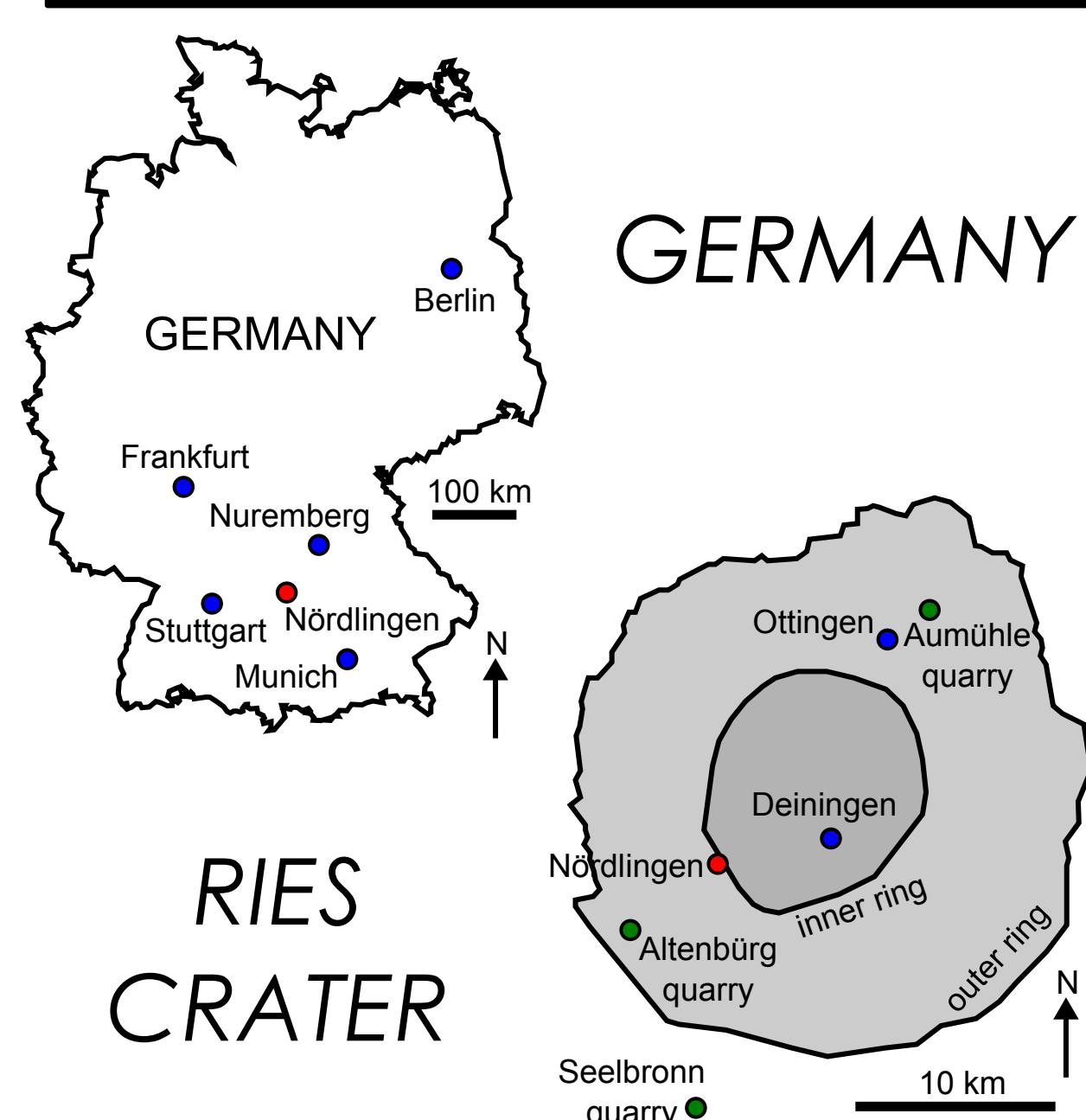


PAUL K. BYRNE (presenting author)

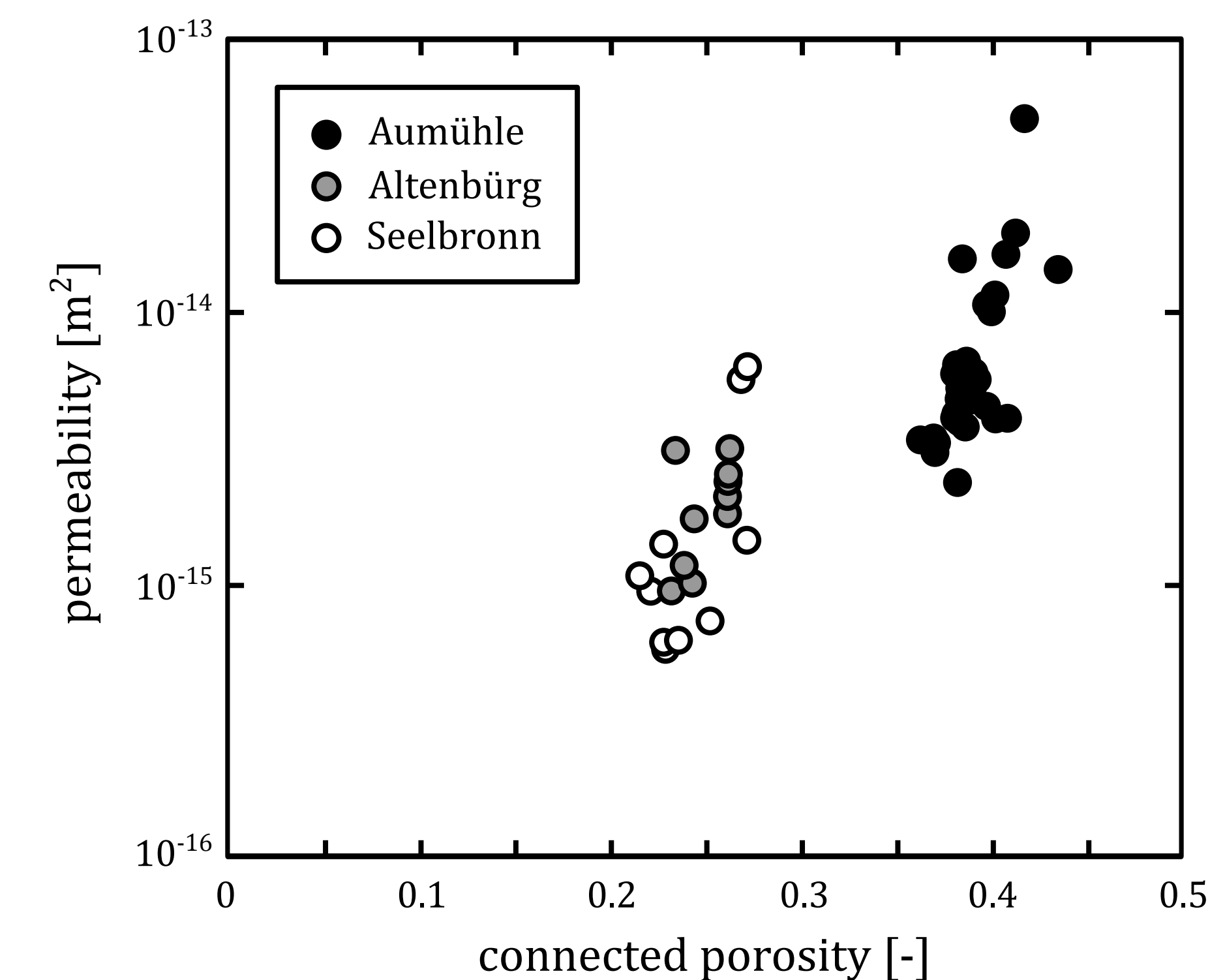


THIERRY REUSCHLÉ

LOCATION



PERMEABILITY

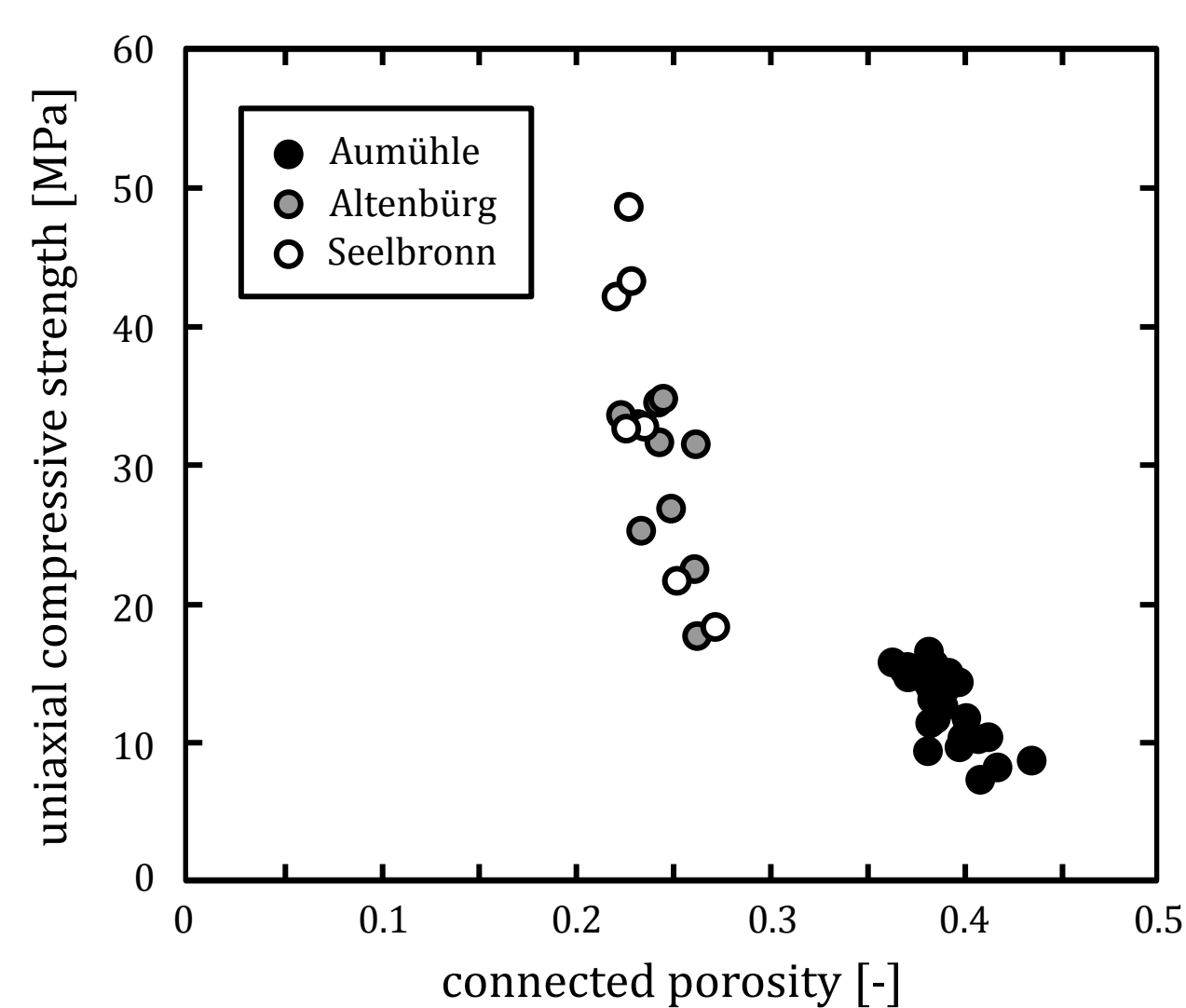


POROSITY BETWEEN 0.2 - 0.4

PERMEABILITY BETWEEN 10^{-16} - $10^{-13} m^2$

MORE ALTERED SUEVITE IS MORE POROUS AND MORE PERMEABLE

STRENGTH



POROSITY BETWEEN 0.2 - 0.4

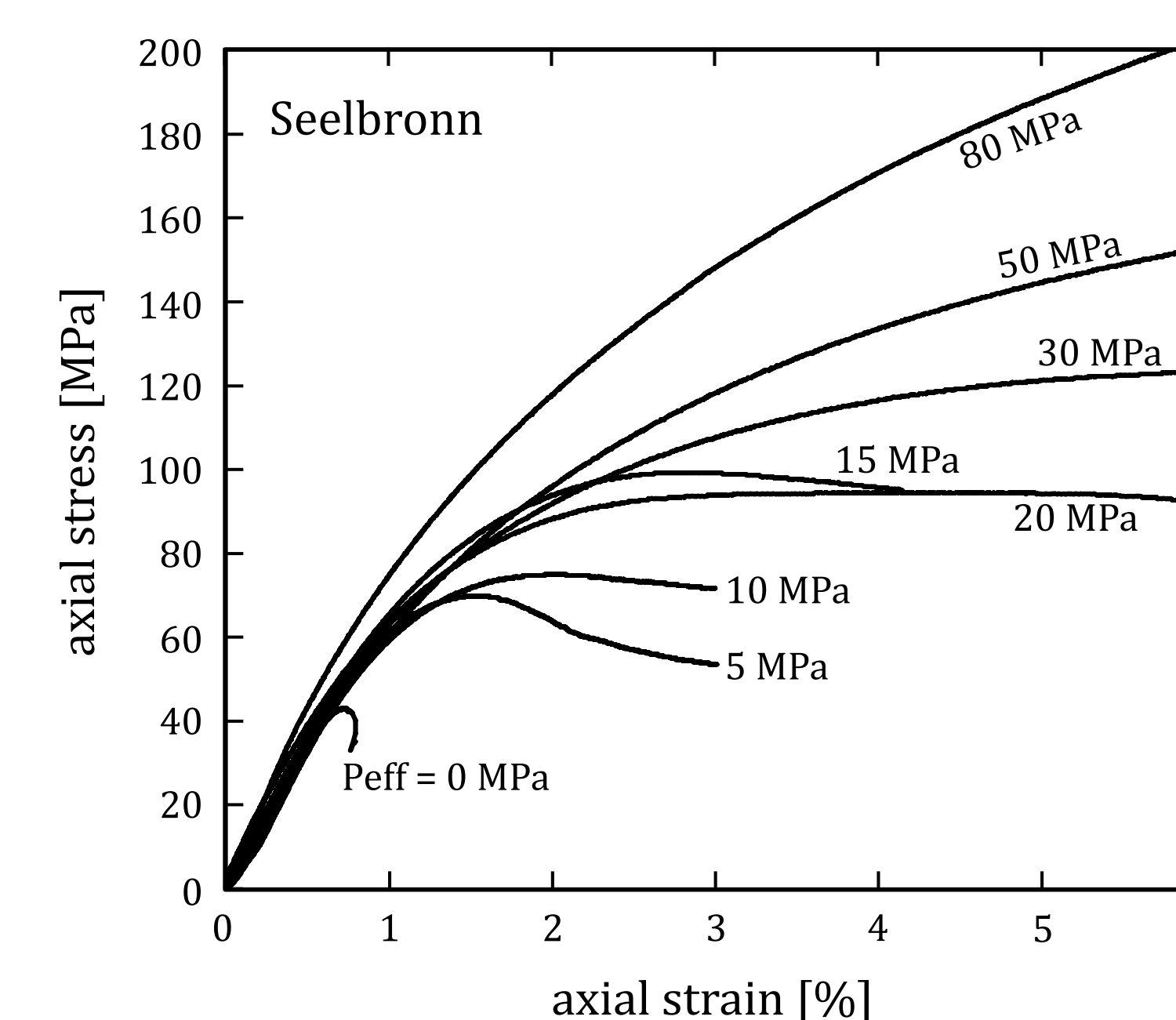
STRENGTH BETWEEN 10 - 50 MPa

MORE ALTERED SUEVITE IS MORE POROUS AND WEAKER

WHY SHOULD I CARE ...

PHYSICAL AND MECHANICAL PROPERTIES OF SUEVITE USEFUL FOR WEATHERING RATE AND CRUSTAL STRENGTH ESTIMATES, FLUID FLOW MODELLING, PORE PRESSURE ESTIMATIONS, AND UNDERSTANDING LARGE-SCALE DEFORMATION

FAILURE MODE



DRY SAMPLES
ROOM TEMPERATURE

TRANSITIONS FROM BRITTLE TO DUCTILE BEHAVIOUR AT AN EFFECTIVE PRESSURE OF 20-30 MPa

EQUIVALENT TO DEPTHS OF 2-3 KM ON MARS AND MERCURY ...
4-6 KM ON THE MOON