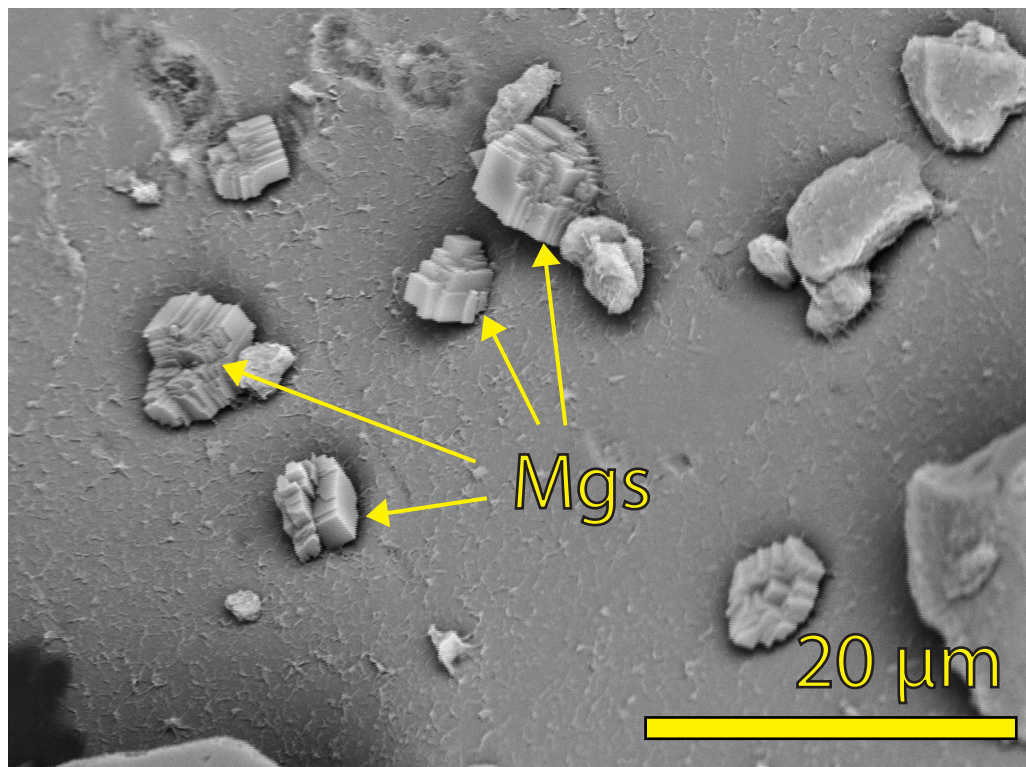


Series of forsterite+CO₂+H₂O experimental interaction were conducted as a function of initial acid supply and reaction progress (time) in closed system at 150°C. Observed mineralogy patterns correspond to our numerical simulations, and in addition so does experimental solution chemistry. However our experimental elemental concentrations, pH and CO₂ levels with reaction progress demonstrate slower rate of quantitative mineralization. One of logical consequent explanations is secondary phase kinetic barriers and therefore will be subject of further investigations. Aim is to involve X-ray tomography measurements to obtain information on mass transport during water-rock interaction. Moreover experiments and models with higher initial CO₂ concentrations required longer reaction progress until CO₂ decrease was observed.



Crystal growth of rhombohedrally shaped magnesite (Mgs) preferably formed in depressions on forsterite's grain surface.