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Elastic properties of dolomite-ankerite solid solutions

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Here, we used Brillouin spectroscopy to determine the sound velocities and elasticity of dolomite-ankerite solid solutions along the CaFexMg1-x(CO3)2 join (x = 0.05, 0.63) at ambient conditions to evaluate the effect of Fe on the elastic properties. The presence of 63 mol% of the CaFe(CO3)2 component in dolomite-ankerite solid solutions, leads to a lowering of the acoustic velocities (-8% for vp and -13% for vs), bulk modulus K (-10%), and shear modulus G (-13%), compared to pure dolomite.

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