# Pyroxmangite

The crystal structure of Mg-rich pyroxmangite from sanidinite of the Laach Lake (Laacher See) Volcano, Eifel paleovolcanic region, Rhineland-Palatinate, Germany has been solved based on single-crystal X-ray diffraction data, the final R indices for all data are: R1 = 0.0302, wR2 = 0.0617.

Parameters of the triclinic unit cell are:

a = 9.6410(4), b = 10.4328(6), c = 17.3419(9) Å,

α = 112.256(5), β = 102.806(4), γ = 82.935(4)°, V = 1572.72(15) Å3. Space group is C-1.

The empirical formula of the studied sample is

$Mn_{3.48}Mg_{1.78}Fe_{1.61}Ca_{0.13}(Si_{7.00}O_{21})$,

and the refined crystal-chemical formula is

M1[(Mn,Fe)0.90Mg0.10] M2[(Mn,Fe)0.93Mg0.07] M3[(Mn,Fe)0.84Mg0.16] M4[(Mn,Fe)0.63Mg0.37] M5[(Mn,Fe)0.74Mg0.26] M1[(Mn,Fe)0.69Mg0.31] M1[(Mn,Fe)0.54Mg0.46] [Si7O21] .

This sample is characterized by a stronger disordering of Mg among the M sites as compared to Mg-rich members of the pyroxmangite-pyroxferroite solid-solution series from xenoliths hosted by basalt of the Bellerberg volcano, Eifel. The genetic factors which could influence to the cation ordering in pyroxmangite-type minerals are discussed.