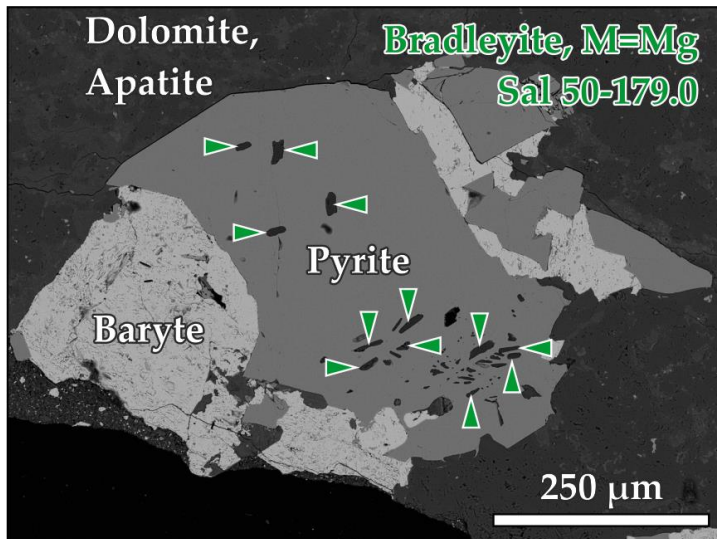


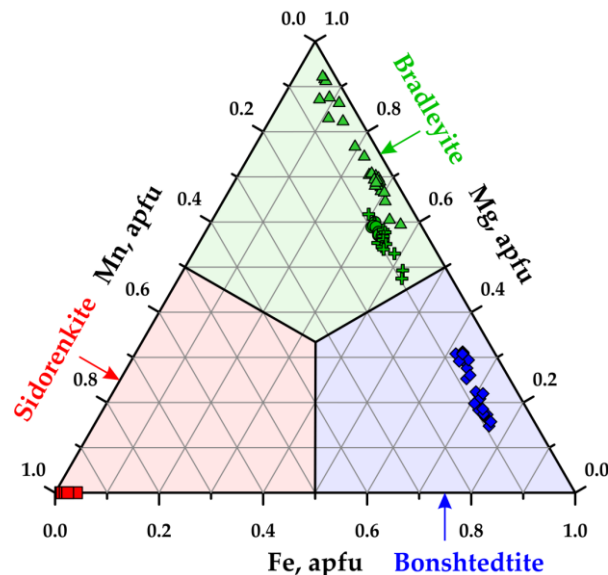
# A Raman spectroscopic study of the natural carbonophosphates $\text{Na}_3\text{MCO}_3\text{PO}_4$ (M = Mn, Fe, and Mg)

*Ekaterina Fomina, Evgeniy Kozlov, Mikhail Sidorov, and Vladimir Bocharov*

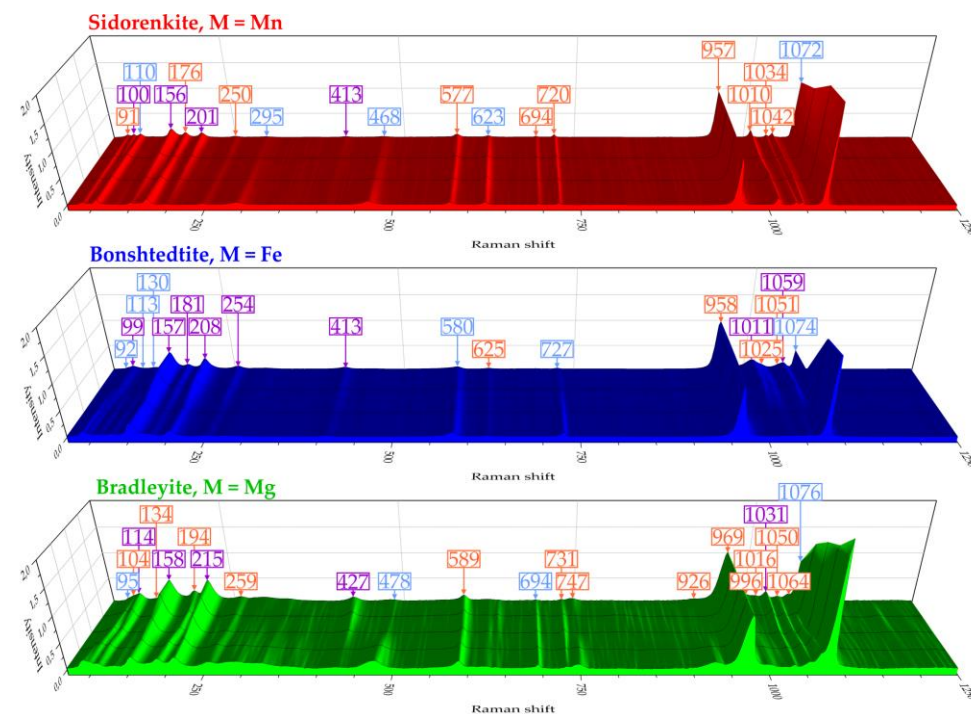
1) Initial stage of the research:



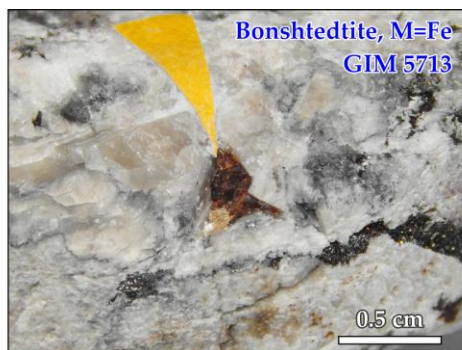
3) Composition of the studied minerals:



4) Raman spectroscopy results:



2) Studied carbonophosphates:



Kozlov E.N., Fomina E.N., Bocharov V.N., Sidorov M.Yu., Vlasenko N.S., and Shilovskikh V.V. A Raman spectroscopic study of the natural carbonophosphates  $\text{Na}_3\text{MCO}_3\text{PO}_4$  (M = Mn, Fe, and Mg) // European Journal of Mineralogy. 2021 (in press)