

## INFRARED SPECTROSCOPY OF NATURAL AND SYNTHETIC TOBERMORITES

Pawlowski, J.<sup>1</sup>, Fehr, K.T.<sup>1</sup> & Hochleitner, R.<sup>2</sup>

<sup>1</sup> Sektion Mineralogie, Petrologie und Geochemie, LMU München, Theresienstr. 41, 80333 München, Germany

<sup>2</sup> Mineralogische Staatssammlung München, Theresienstr. 41, 80333 München, Germany

e-mail: pawlowski@min.uni-muenchen.de

IR-spectra of natural and synthetic tobermorites show many similarities, but there are some obvious differences between natural and synthetic phases and also between the single phases (MERLINO et al., 1999; HOCHLEITNER, 2000). An important influence on the form of the spectra has the ratio calcium/silicon of each sample, but also the quality of the crystals. The ratio is mainly responsible for the position of each band and the quality is responsible for the sharpness of the bands (Fig. 1).

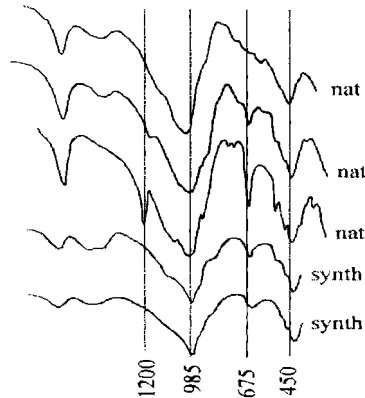


Fig. 1. IR-spectra of natural and synthetic tobermorite.  
1200 = Si-O-stretching vibrations of  $Q^3$ -places,  
985 = Si-O-stretching vibrations of  $Q^2$ -places,  
675 = Si-O-Si bending vibrations,  
450 = internal deformation of  $SiO_4$ -tetrahedron

### References

- HOCHLEITNER, R. (2000): In: RAMMELMAIR, D., MEDERER, J., OBERTHÜR, T., HEIMANN, R.B. & PENTINGHAUS, H. (eds.) Applied Mineralogy in Research, Economy, Technology, Ecology and Culture. A.A. Balkema, Rotterdam, 799-801.
- MERLINO, S., BONACCORSI, E. & ARMBRUSTER, N. (1999): Am. Mineral., **84**: 1613-1621.