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Notices

UK Luminescence Dating Meeting

19-20 December 1995
Sussex University

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• **Luminescence Spectra of Minerals by B.S. Gorobets**

From John Prescott, University of Adelaide

I have recently acquired a copy of a very rare publication in Russian:

B.S. Gorobets 1981, *Spektry Lyuminescentsii Mineralov*, Moskva, Ministersvo Geologii SSSR

[B.S. Gorobets 1981 Luminescence Spectra of Minerals Moscow, Ministry of Geology]

It is a compendium, mostly of work in the then USSR, based on observations on over 200 minerals. The bibliography covers references from 1970 to 1982. It appears to have been intended for internal use because the print run was only 400 copies and it is now out of print. An English translation of the Table of Contents and the Summary follows. Lest there be any misunderstanding, this is the only part of the document available in English translation.

I would be happy to provide copies of the Russian original for postage for the cost of copying and airmail postage: Australian dollars \$20 paid in advance.

J.R. Prescott, Physics/ Mathematical Physics, University of Adelaide, Australia 5005.

ABSTRACT

B.S. Gorobets, Luminescence spectra of minerals.

(Technical recommendations of the scientific committee for the study of minerals. VIMS MINGEO USSR) 1981
10 folios [pp 153], 220 figures, 24 tables.

This is a summary of technical knowledge on studies of the luminescence spectra of minerals, produced with the aim of expediting diagnostic use and analysis of typomorphic features development of rational schemes for radio metric classification. It begins with a short note on the physical basis for the occurrence luminescence in minerals, its dependence on the crystal chemistry the latter, and on geological-genetic factors in mineral formation. Apparatus and methods for recording photo luminescence (PL) spectra and radio luminescence spectra (RL) are described. A method of interpreting spectra is based on a "standardised" form of the PL and RL spectra, obtained at VIMS or found in the literature. Altogether there are about 700 spectra, representing roughly 400 specimens of 240 varieties of minerals, at 77K and 300K; luminescence bands are attributed to specific luminogenic impurities or to intrinsic luminescence. Seventeen tables contain summarised data on the frequency of occurrence of different luminescence centres in minerals. The tabulation describes the differing frequency of occurrence of luminescence centres (rare earths and manganese) in apatite, fluorite and calcite, as well as scheelite from deposits of different genetic origins. These data allow decisions on the further question of the qualitative nature of oxidising-reducing, acid-basic conditions and the concentration of rare and dispersed elements in the process of mineral formation. The technical recommendations are intended for a wide circle of mineralogists and for specialists in radiometric ore processing.

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