Freie Universität Berlin

Geowissenschaftliches Kolloquium

Application of the Mössbauer effect in Mineralogy

Donnerstag, 30. November 2017 - 16.15 Uhr

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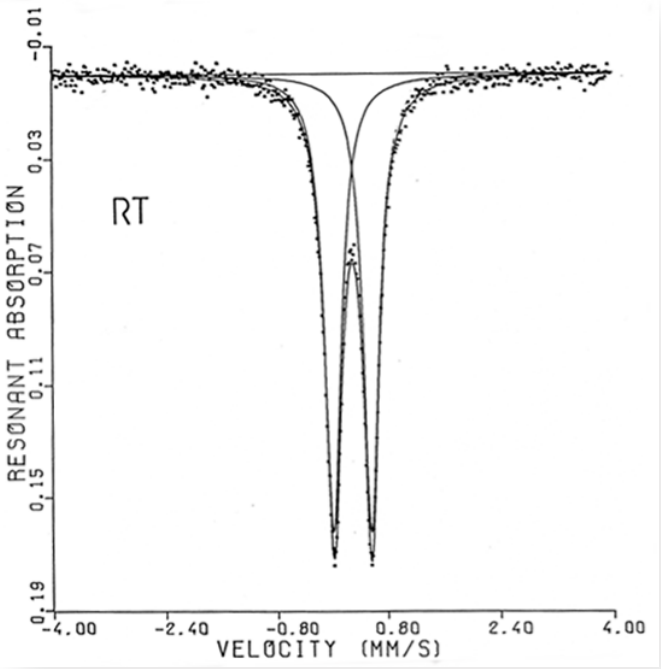
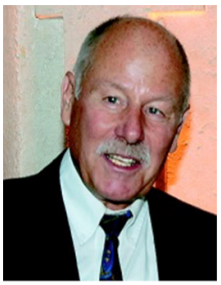
There are many applications of the Mössbauer effect in Mineralogy because i) ^{57}Fe is one of the best suited Mössbauer isotopes and ii) iron is the most common transition element in our planetary system and many minerals contain iron as a main or substitutional element. Therefore, the basic principles of and information provided by Mössbauer spectroscopy will be outlined for ^{57}Fe in silicates and sulfides. Additional examples are presented for the Mössbauer isotopes ^{119}Sn and ^{121}Sb in sulfides.



Mössbauer spectrum of ^{57}Fe in Andradite $Ca_3Fe^{3+}{}_2Si_3O_{12}$ taken at room temperature of the absorber.



Prof. Georg Amthauer studied mineralogy and crystallography at the University Bonn (Dipl.-Min.) and at the University Saarbrücken (Dr.rer.nat.). He then worked as a postdoc at the University Marburg (Dr. habil) and as a visiting associate at the California Institute of Technology. In 1985 he became Professor of Mineralogy (Chair) at the University Salzburg where he is now Emeritus in the Department of Chemistry and Physics of Materials.

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