



英汉地学专业术语集注系列
丛书主编 董元兴 张红燕

英汉矿物学 专业术语集注

江敏 杨红燕 丘晓娟 编著



WUHAN UNIVERSITY PRESS

武汉大学出版社

英汉地学专业术语集注系列
丛书主编 董元兴 张红燕

英汉矿物学 专业术语集注

江敏 杨红燕 丘晓娟 编著

丛书编委会

主 编 董元兴 张红燕

编 委 (按姓氏笔画排序)

王 伟 江 敏 冯 迪 丘晓娟 许 峰
李 慷 张红燕 张 莉 杨红燕 周 艳
赵 妍 唐晓云 董元兴



WUHAN UNIVERSITY PRESS

武汉大学出版社

图书在版编目(CIP)数据

英汉矿物学专业术语集注/江敏,杨红燕,丘晓娟编著. —武汉:武汉大学出版社,2017. 1

英汉地学专业术语集注系列/董元兴 张红燕主编

ISBN 978-7-307-12119-5

I. 英… II. ①江… ②杨… ③丘… III. 矿物学—术语—英、汉
IV. P57-61

中国版本图书馆 CIP 数据核字(2017)第 013035 号

责任编辑:李 琼 责任校对:李孟潇 版式设计:马 佳

出版发行:武汉大学出版社 (430072 武昌 珞珈山)

(电子邮件:cbs22@whu.edu.cn 网址:www.wdp.com.cn)

印刷:湖北金海印务有限公司

开本:787×1092 1/16 印张:38.5 字数:959千字 插页:1

版次:2017年1月第1版 2017年1月第1次印刷

ISBN 978-7-307-12119-5 定价:70.00元

版权所有,不得翻印;凡购买我社的图书,如有质量问题,请与当地图书销售部门联系调换。

序

矿物学是地质学的重要分支学科，是研究矿物的化学成分、晶体结构、形态、性质、成因、产状、共生组合、变化条件、时间与空间上的分布规律、形成与演化的历史和用途以及它们之间关系的一门学科。许多生产部门，如采矿、选冶化工等都离不开矿物原料。因此，矿物学研究不仅有理论意义，而且对矿物资源的开发和应用有重要的实际意义。近些年来，中外矿产企业交流合作日益深入，矿物学研究发展迅猛并日益趋向国际化，地质工作者和学生迫切需要有一本矿物学方面的专业术语英汉集注，为此我们编写了这本集注。

本集注根据矿物学的学科特点，共分为三个部分，分别是结晶学词汇、矿物名称词汇、矿物学词汇。其中结晶学词汇 527 条，矿物名称词汇 524 条，矿物学词汇 401 条。词汇选择严格参照矿物学专业术语库。在体例上，以英语音标、英语释义、对应汉语名、汉语拼音注音、词源、例句（含汉语译文）和拓展词组为主要组成部分。在词汇释义和例句选择上紧扣专业主题，部分较为复杂的复合词术语中的单词也进行了单独释义。词源部分除了提供部分术语在该专业领域的缘起，还包含许多普通词汇的由来和演变，有助于了解该词汇的来龙去脉。该集注兼顾专业和语言，融合了英汉科技专业词典和英语语言词典的双重特色。

本集注的例句不少来自国内外有关著作和文献，限于体例，未予注明出处；本集注的编写得到了中国地质大学（武汉）材化学院相关专家的支持和帮助；外语学院 2012 届研究生何颖、周佳、徐倩、李寐竹等做了大量资料收集整理工作，在此表示诚挚的谢意。

由于时间和经验所限，本书在选词和例句选用等方面难免有不足或错误之处，我们诚恳地希望广大读者提出批评和建议，以利于我们进一步改正和修订。

目 录

第一部分 结晶学词汇

A	3	N	135
B	16	O	138
C	29	P	144
D	62	Q	161
E	78	R	163
F	90	S	170
G	95	T	182
H	101	U	191
I	109	V	192
K	120	W	193
L	121	X	194
M	127	Z	195

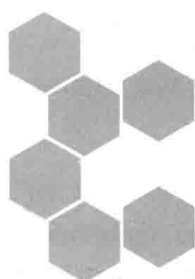
第二部分 矿物名称词汇

A	199	N	332
B	223	O	339
C	237	P	343
D	265	Q	362
E	270	R	363
F	276	S	370
G	281	T	393
H	288	U	403
I	298	V	405
J	301	W	408
K	304	X	412
L	306	Y	415
M	315	Z	415

第三部分 矿物学词汇

A	423	N	538
B	439	O	544
C	448	P	550
D	470	Q	560
E	478	R	562
F	490	S	566
G	496	T	582
H	502	U	598
I	508	V	600
J	518	W	604
K	519	X	605
L	521	Z	607
M	526		

4



第一部分 结晶学词汇



Abbe Refractometer [ˈæbi riˌfræktˈɒmɪtə]

Definition: An Abbe Refractometer is a bench-top device for the high-precision measurement of an index of refraction. 阿贝折射仪 ā bèi zhé shè yí

abbe: 阿贝 ā bèi

refractometer: A refractometer is a laboratory or field device for the measurement of an index of refraction. The index of refraction is calculated from Snell's law and can be calculated from the composition of the material using the Gladstone-Dale relation. 折射计 zhé shè jì

Example:

A method of verifying the formula of index of refraction of a solution is given by measuring its index of refraction and percentage concentration with Abbe Refractometer.

提供了一种通过阿贝折射仪测量溶液折射率和百分比浓度来验证其折射率公式的方法。

Extended Terms:

high-precision abbe refractometer 高精阿贝折射仪

abbe refractometer with light source 带光源阿贝折射计

abelian group [əˈbiːljən gruːp]

Definition: An abelian group, also called a commutative group, is a group in which the result of applying the group operation to two group elements does not depend on the order in which they are written. This means that the order in which the binary operation is performed does not matter, and any two elements of the group commute. Groups that are not commutative are called non-abelian (rather than non-commutative). 阿贝尔群 ā bèi ěr qún

Origin: named after Niels Henrik Abel

Example:

In some finiteness conditions, we prove that there exists a natural abelian group homomorphism from the Grothendieck group of R to the Grothendieck group of A .

在适当的有限性条件下,我们证明了一个从 R 的格罗腾迪克群到 A 的格罗腾迪克群的自然阿贝尔群同态。

Extended Terms:

discrete abelian group 离散阿贝尔群

- compact abelian group 紧阿贝尔群
- free abelian group 自由交换群;自由阿贝尔群
- topological abelian group 拓扑阿贝尔群
- primary abelian group 准素阿贝尔群

absolute structure [ˈæbsəluːt ˈstrʌktʃə]

Definition: The spatial arrangement of the atoms of a physically identified non-centrosymmetric crystal and its description by way of unit-cell dimensions, space group, and representative coordinates of all atoms. 绝对构造 jué duì gòu zào

absorption edge [əbˈsɔːpʃən edʒ]

Definition: An absorption edge is a sharp discontinuity in the absorption spectrum of X-rays by an element that occurs when the energy of the photon corresponds to the energy of a shell of the atom. 吸收边 xī shōu biān

Example:

It also showed that the optical absorption edge of the annealed film appeared shifted towards the longer wavelength side and the band gap decreased by 0.
光学性质显示退火处理的薄膜吸收边缘明显向长波的方向移动,发生红移现象,而且禁带宽度减少了0。

Extended Terms:

- X-ray absorption near edge structure (XANES) X 射线吸收近边结构
- optical absorption edge 光学吸收限;光吸收限
- fundamental absorption edge 基本吸收边缘
- X-ray absorption edge X 射线吸收带边缘
- main absorption edge 主吸收边限

absorption index [əbˈsɔːpʃən ˈindeks]

Definition: A measure of the attenuation caused by absorption of energy per unit of distance that occurs in an electromagnetic wave of given wavelength propagating in a material medium of given refractive index. 吸收指数 xī shōu zhǐ shù

Example:

When salinity of formation water is rather high, the volumetric photoelectric absorption index of water and that of oil (gas) are quite different.
当地层水含盐量较高时,水的体积光电吸收指数与油(气)的体积光电吸收指数相差较大。

Extended Terms:

pseudo-absorption index 伪吸收系数

tensile energy absorption index 抗张能量吸收指数

index of absorption 吸收指数;吸收率

absorption [əb'sɔ:pʃən] *n.*

Definition: (*Chemistry*) Absorption is a physical or chemical phenomenon or a process in which atoms, molecules, or ions enter some bulk phase-gas, liquid or solid material. This is a different process from adsorption, since molecules undergoing absorption are taken up by the volume, not by the surface (as in the case for adsorption). A more general term is “sorption”, which covers absorption, adsorption and ion exchange. Absorption is basically where something takes in another substance. 吸收性 xī shōu xìng

Origin: from absorb

Example:

This article makes on classified explanation to absorption spectrum on analyzing and researching lignin structure, application of lignin.

本文对吸收光谱在分析和研究木素结构及应用等方面进行了分类综述。

Extended Terms:

absorption rate 吸收率;分摊率;摊配率;吸收速率

absorption ratio 吸收系数

absorption band 吸收带;吸收谱带;吸收频带;吸收光带

absorption capacity 吸收能力;吸收容量;吸收本领;吸收力

acceptance domain [ək'septəns dəu'mein]

Definition: When an aperiodic crystalline point set is obtained by the intersection method, as the intersection of a periodic array of finite, disjoint components in superspace and the physical space, then there is, for each point, a component in the higher-dimensional unit cell. These components are called *acceptance domains*, *atomic surfaces*, *atomic domains*, or *windows* in the literature. The positions of atoms in aperiodic crystals (or vertices in the case of a tiling) are the intersection of the atomic surfaces with the physical space. This construction of the points is called the intersection method. 接受域 jiē shòu yù

Example:

This general procedure leads to acceptance domain or motif identical to those discussed in literature for primitive orthogonal hyperlattices.

这种普通的程序会形成与相关文献中原始正交点阵相同的接受域或结构基元。

affine isomorphism [ə'fain 'aisəu'mɔ:fizəm]

Definition: Each symmetry operation of crystallographic group in E^3 may be represented by a 3×3 matrix W (*the linear part*) and a vector w . Two crystallographic groups $G1 = \{(W_{1i}, w_{1i})\}$ and $G2 = \{(W_{2i}, w_{2i})\}$ are called affine isomorphic if there exists a non-singular 3×3 matrix A and a vector a such that: $G2 = \{(A, a)(W_{1i}, w_{1i})(A, a)^{-1}\}$. Two crystallographic groups are affine isomorphic if and only if their arrangement of symmetry elements may be mapped onto each other by an affine mapping of E^3 . Two affine isomorphic groups are always isomorphic. 类质同晶 lèi zhì tóng jīng

affine: related by marriage 姻亲的 yīn qīn de

isomorphism: similarity or identity of form or shape or structure 类质同晶 lèi zhì tóng jīng

affine mapping [ə'fain 'mæpiŋ]

Definition: An affine mapping is any mapping that preserves collinearity and ratios of distances; if three points belong to the same straight line, their images under an affine transformation also belong to the same line. 仿射映射 fǎng shè yìng shè

Example:

Its characteristic is also in the capability of describing complex surface texture of a model. It uses affine mapping from a rectangular texture image to each facet to describe simple texture mapping on a surface, and it describes complex texture mapping by simply storing the result image of the complex texture mapping onto each facet.

该格式的另一特点在于它对模型表面复杂纹理的描述能力;对于表面上的简单纹理映射,用从矩形纹理图案到三角片的仿射映射方法进行描述,而对于复杂的纹理映射,则采用了直接保存每个三角片上的复杂纹理映射结果图案的简单方法。

Extended Term:

quasi affine mapping 拟仿射映射

albite twin law [ˈælbait twin lɔ:]

Definition: It is a rule specifying the orientation of alternating lamellae in multiple twin feldspar crystals; the twinning plane is brachypinacoid and is common in albite. 钠长石双晶律 nà cháng shí shuāng jīng lǜ

albite: a widely distributed rock-forming feldspar 钠长石 nà cháng shí

twin: either of two offspring born at the same time from the same pregnancy 孪生的 luán shēng

de

law: a generalization that describes recurring facts or events in nature 定律 dīng lǜ

amorphous substance [ə'mɔːfəs 'sʌbstəns]

Definition: An amorphous substance is something that has a random molecular formation in its natural form (when solidified). The opposite would be semi-crystalline which has random molecular structure when heated but returns to an organised uniform state when solidified. 非晶质 fēi jīng zhì; 无定形物质 wú dìng xíng wù zhì

Example:

Fluid is a continuous, amorphous substance whose molecules move freely past one another and that has the tendency to assume the shape of its container; a liquid or gas.

流体是一种分子能自由移动并随容器形状而变化的连续的无定形物质, 如液体或气体。

Extended Term:

amorphous ground substance 无结构基质; 无定型基质

angle of polarization [ˈæŋɡl əv ˌpəʊləraɪˈzeɪʃən]

Definition: An angle of polarization (also known as the Brewster's angle) is an angle of incidence at which light with a particular polarization is perfectly transmitted through a surface, with no reflection. 偏振角 piān zhèn jiǎo

Example:

The performance of passive OCT is analyzed when the angle of polarization and phase shift of the incident light and the different initial birefringence are introduced.

(本文)分析了入射光偏转角、入射光相移与初始线性双折射对光学电流互感器输出的共同影响。

Extended Term:

angle of restored polarization 复偏振角

anisotropic body [ænˌaɪsəʊˈtrɒpɪk 'bɒdi]

Definition: objects of which optical properties vary with respect to direction 各向异性体 gè xiàng yì xìng tǐ

anisotropic: not invariant with respect to direction 各向异性的 gè xiàng yì xìng de

body: an individual 3-dimensional object that has mass and that is distinguishable from other objects 物体 wù tǐ

Example:

Using the complex potential method in the plane theory of elasticity of an anisotropic body, the series solution of finite anisotropic thin plate containing an elliptical inclusion is proposed with the help of Faber series.

采用各向异性体平面弹性理论中的复势方法,以 Faber 级数为工具,给出了有限大含椭圆核各向异性板弹性问题的级数解形式。

Extended Terms:

- anisotropic elastic body 异方性弹性体
- orthogonal anisotropic body 正交各向异性体

anisotropy [ˌænaiˈsɒtrəpi]

Definition: (*Physics*) Anisotropy is a physical property (of an object or substance) which has a different value when measured in different directions. An example is wood, which is stronger along the grain than across it. 各向异性(异向性)gè xiàng yì xìng (yì xiàng xìng)

Origin: late 19th century; from Greek anisos “unequal” + tropos “turn” + -ic

Example:

The objective is to explicit the dynamic changes of average diffusion coefficient (DCav), Isotropic image (Iso), fractional anisotropy (FA), relative anisotropy (RA), anisotropy index (AI) value in acute cerebral ischemia.

目的在于明确急性脑缺血平均扩散系数(DCav)、各向同性图像(Iso)、部分各向异性(FA)、相对各向异性(RA)、各向异性指数(AI)值的动态变化。

Extended Terms:

- growth anisotropy 生长各向异性
- macroscopic anisotropy 宏观各向异性;巨视异向性

anomalous absorption [əˈnɒmələs əbˈsɔ:pʃən]

Definition: Anomalous absorption is absorption that takes place when radiation is dynamically diffracted by a perfect or nearly perfect crystal. 反常吸收 fǎn cháng xī shōu

anomalous: inconsistent with or deviating from what is usual, normal, or expected 反常 fǎn cháng

Example:

It is recognized that anomalous absorption is the major energy absorption mechanism for an intense relativistic electron in the target matter. With the two-stream instability and magnetic enhancement effect taken into account, experimental results can be interpreted rather well.

(本文)认为反常吸收是靶对强流相对论电子束的主要能量吸收机制,考虑双流不稳定性效应及磁增强效应就可以比较好地解释实验结果。

anomalous dispersion [ə'nomələs dis'pɜːʃən]

Definition: extraordinary behavior in the curve of refractive index versus wavelength which occurs in the vicinity of absorption lines or bands in the absorption spectrum of a medium 反常色散 fǎn cháng sè sàn

dispersion: In optics, dispersion is the phenomenon in which the phase velocity of a wave depends on its frequency, or alternatively when the group velocity depends on the frequency. Media having such a property are termed dispersive media. Dispersion is sometimes called chromatic dispersion to emphasize its wavelength-dependent nature, or group-velocity dispersion (GVD) to emphasize the role of the group velocity. 色散 sè sàn

Example:

Bright soliton pairs propagating in the birefringent fiber with the anomalous dispersion exchange the energy periodically by the couple between them.

在反常色散的双折射光纤中传输的亮孤子对之间由于耦合周期性地交换能量,一个亮孤子可把能量完全传给另一个亮孤子。

Extended Terms:

anomalous rotatory dispersion 异常旋光色散

anomalous dispersion of X-rays X射线的异常折散

anomalous scattering [ə'nomələs 'skætərɪŋ]

Definition: a change in a diffracting X-ray's phase that is unique from the rest of the atoms in a crystal due to strong X-ray absorbance 反常散射 fǎn cháng sǎn shè

scattering: A general physical process where some forms of radiation, such as light, sound, or moving particles, are forced to deviate from a straight trajectory by one or more localized non-uniformities in the medium through which they pass. 散射 sǎn shè

Example:

The influence of anomalous scattering on retained austenite determination in steel by X-ray diffraction method was investigated.

采用X射线校对法研究了反常散射对钢中残余奥氏体含量的影响。

Extended Terms:

anomalous fluorescence scattering 反常荧光散射

anomalous atomic scattering method 反常原子散射法;反常原子反射法

anomalous transmission [ə'nomələs trænz'miʃən]

Definition: transmission deviating from the normal rule 反常透射 fǎn cháng tòu shè

transmission: the fraction of radiant energy that passes through a substance 透射 tòu shè

Example:

It places the stress on analyzing the anomalous transmission valley which occurs in the passbands, and a simple inhibiting procedure is described.

着重分析了在通带区域内出现反常透射深谷的原因及其抑制方法。

Extended Terms:

Borrmann anomalous-transmission technique 博曼反常透射技术

anomalous transmission method 异常透射法

antiphase boundary ['ænti,feis 'baundəri]

Definition: Each side of the boundary has an opposite phase.反相畴界 fǎn xiāng chóu jiè

antiphase: (*Sciences*) describing a boundary between an ordered phase and a disordered or random phase 反相 fǎn xiāng

boundary: the dividing line or location between two areas 界限 jiè xiàn

Example:

It is found by transmission electron microscope that the form of antiphase domain boundary has a strong effect on the ductility of ordered alloys.

利用透射电镜观察发现,反相畴界形态严重影响合金的塑性。

Extended Terms:

antiphase domain boundary 反相畴界

antiphase boundary energy 反相边界能

antiphase domain (APD) ['ænti,feis dəu'mein]

Definition: Antiphase domain is the region where the atomic arrangements are of the opposite to that of perfect lattice system or simply said, APD is the region of anti-sites in a parent lattice. Generally APD forms anti-phase boundary (APB) with the parent lattice. 反相畴 fǎn xiāng chóu

Example:

The model not only can describe the evolution of the antiphase domains, morphology and microstructure of coherent precipitate successfully, but also take all stages into one physical model, including nucleation, growth and coarsening.

该模型可成功地描述共格沉淀过程中反相畴、沉淀相形貌和结构的演化，并将形核、长大和粗化在同一物理模型内加以考虑。

aperiodic crystal [ˌeɪpɪərɪˈɒdɪk ˈkrɪstəl]

Definition: Aperiodic crystal is a structure with, ideally, sharp diffraction peaks on the positions of a reciprocal lattice. The structure then is invariant under the translations of the direct lattice. Periodicity here means lattice periodicity. Any structure without this property is aperiodic. 非周期性晶体 fēi zhōu qī xìng jīng tǐ

aperiodic: occurring without periodicity; irregular 非周期性的 fēi zhōu qī xìng de

crystal: A crystal or crystalline solid is a solid material, whose constituent atoms, molecules, or ions are arranged in an orderly repeating pattern extending in all three spatial dimensions. 晶体 jīng tǐ

aphanite [æˈfɛnaɪt] n.

Definition: Aphanite, or aphanitic as an adjective, is a name given to certain igneous rocks which are so fine grained that their component mineral crystals are not detected by the unaided eye (as opposed to phaneritic igneous rocks, where the minerals are visible to the unaided eye). This texture results from rapid cooling in volcanic or hypabyssal (shallow subsurface) environments. As a rule, the texture of these rocks are not quite the same volcanic glass (e.g. obsidian), with volcanic glass being even finer grained (or more accurately, non-crystalline) than aphanitic rocks, and having a glass-like appearance. Aphanites are commonly porphyritic, having large crystals embedded in the fine groundmass or matrix. The large inclusions are called phenocrysts. They consist essentially of very fine grained minerals, such as plagioclase feldspar, with hornblende or augite, and may contain also biotite, quartz, and orthoclase. 隐晶质 yǐn jīng zhì

Origin: from the Greek αφανης, “invisible”

Example:

The result shows that the content of C in the aphanitic graphite can reach 96% by the method. 结果表明:用该方法提纯隐晶质石墨,可使石墨的含碳量达到96%以上。

Extended Terms:

aphanitic texture 隐晶结构

aphanitic basalt 非显晶玄武岩;隐晶玄武岩

aphanitic variolitic texture 隐晶球状结构

dense (aphanitic) dolomite 致密白云岩