

★★★ <第33回知的財産翻訳検定試験【第16回英文和訳】> ★★★

《1級課題 -電気・電子工学-》

【解答にあたっての注意】

1. 問題の指示により和訳してください。
2. 解答語数に特に制限はありません。適切な箇所で行って改行してください。
3. 課題文に段落番号がある場合、これを訳文に記載してください。
4. 課題は3題あります。それぞれの課題の指示に従い、3題すべて解答してください。

問1. 以下の文章は、原子力発電における核廃棄物の貯蔵に関する発明の従来技術の説明です。日本語に訳してください。

Geologic storage of nuclear waste has been for the past thirty years the primary plan for permanent storage of nuclear waste worldwide. However, concerns about the effectiveness of confinement, the loss of the large energy content of the plutonium waste, the accumulation of thousands of tons of weapons-useful plutonium in the stored waste, and the possibility of recriticality of the waste in permanent storage have delayed the implementation of geologic storage worldwide. At present, no nation has identified a permanent site for geologic storage of high-level nuclear waste and implementation of geologic waste storage anywhere is at least a decade away. Several nations have attempted to address this problem by destroying the waste using technologies such as mixed oxide (MOX) waste burning in conventional light water reactors (LWRs) or in fast breeder reactors converted for waste burning. While some gains are possible using these approaches, the impact on the waste problem is either minor or the time scale for making a significant impact is much longer than a human generation. Therefore there is no consensus that destruction of waste using conventional nuclear technology is practical for improving geologic storage significantly.

問 2. 以下は、電子顕微鏡のイオン源の先端部 1 8 7 の構造に関する説明文です。Start から End までの部分を日本語に訳してください。

FIG. 3 is a schematic representation of tip apex 187 (formed of W(111), see discussion below). Tip apex 187 includes layers of atoms arranged to form atomic shelves. A terminal atomic shelf is formed by atoms 142. A second atomic shelf is formed by atoms 144, and a third atomic shelf is formed by atoms 146. Neutral gas atoms 182 delivered by gas source 110 are present in the vicinity of tip apex 187. Atoms 182 become polarized due to the electric field of tip apex 187, and experience a relatively weak attractive force that causes atoms 182 to move towards tip apex 187, as indicated by the arrows on atoms 182.

*******(START)*******

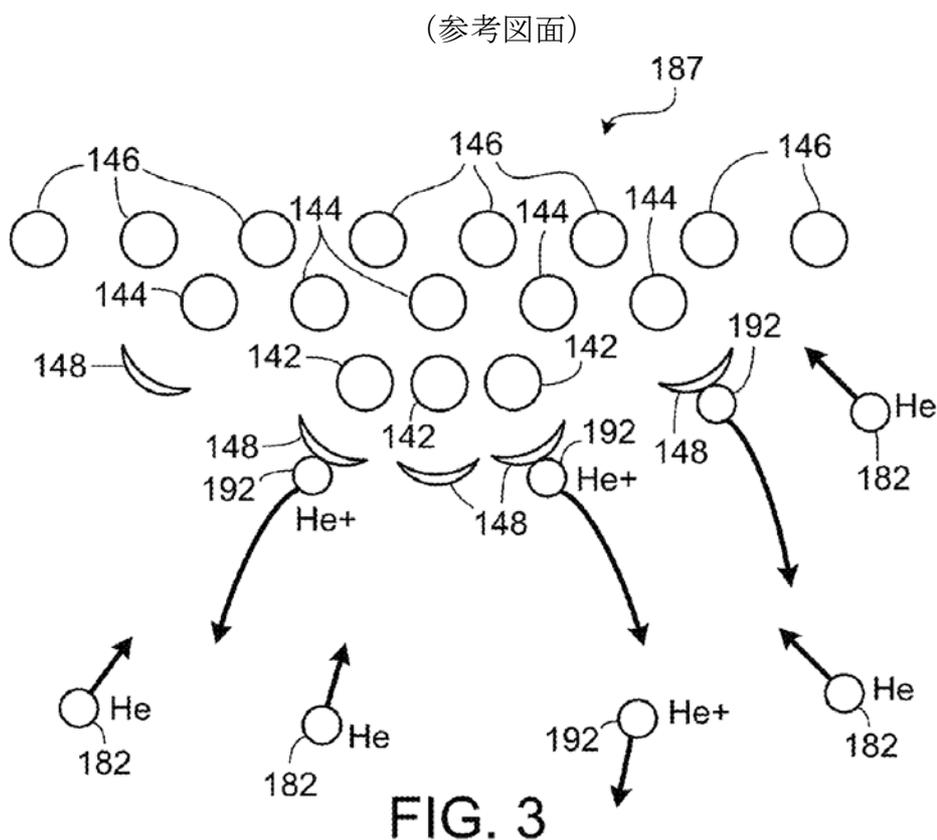
Depending upon the strength of the tip's electric field, each atoms in the atomic shelves near tip apex 187 can have a corresponding ionization disk 148. An ionization disk 148 is a region of space in which a neutral He atom, venturing thereinto, has a high probability of undergoing ionization. Typically, ionization of a neutral He atom occurs via electron tunneling from the neutral He atom to a tip apex atom. Ionization disks 148 therefore represent spatial regions in which He ions are generated, and from which the He ions emerge.

The sizes of the ionization disks 148 for particular tip apex atoms are dependent upon the shape of tip apex 187 and the electrical potential applied to tip apex 187. In general, ionization of He atoms can occur in spatial regions adjacent to tip apex 187 where the local electric field exceeds the ionization potential of He atoms. For a large electric potential applied to tip apex 187, therefore, many tip atoms will have ionization disks. In addition, the local electric field in the vicinity of tip apex 187 depends upon the shape of tip apex 187. For a relatively sharp tip apex, the local electric field in the vicinity of tip apex 187 will be relatively high. For a relatively blunt tip apex, the local electric field, even in the vicinity of tip apex 187, will be smaller.

*******(END)*******

Ionization disks 148 corresponding to individual atoms of tip apex 187 are spatially separated from one another in FIG. 3. In some embodiments, if the

electric field of tip apex 187 is sufficiently large, ionization disks from more than one atom (e.g., atoms 142) can overlap spatially, creating a larger ionization disk that spans a region of space proximal to multiple tip apex atoms. By reducing the electric field at tip apex 187, the volume of space occupied by ionization disks 148 can be reduced, and the geometry depicted in FIG. 3 can be realized where a few tip apex atoms each have their own individual, spatially separated ionization disks. Because, in many instances, the shape of tip apex 187 is not easily altered during use of ion source 120, the electric field in the vicinity of tip apex 187 is typically controlled by adjusting the electrical potential applied to tip apex 187.



問3. 以下の文章は、ネットワーク上での端末管理に関する発明の請求の範囲における説明です。日本語に訳してください。

1. A method comprising:

a) managing, operating, or maintaining a plurality of terminals in a network or system;

b) allowing access to a first account portal, console, or system that allows selections or updates, wherein the first account portal, console, or system comprises:

i) one or more graphical user interfaces (GUIs), the GUIs including at least:

1) information associated with one or more terminals in a first set of terminals, wherein the information includes:

(a) an identifier label associated with each of the one or more terminals in the first set of terminals;

(b) settings for each of the one or more terminals in the first set of terminals, wherein the settings include:

(i) first settings, wherein the first settings comprise:

(1) compliance settings;

(2) preference settings;

(3) fee settings; or

(4) controls for each of the first set of terminals, wherein the controls include:

a. reboot commands;

c) receiving selections or updates made in the first account portal, console, or system;

d) based on the selections or updates, updating configuration settings for each of the one or more terminals in the first set of terminals;

e) creating a first user account for a first user, wherein creating the first user account comprises:

i) receiving first user data wherein the first user data comprises identification document information or identification information associated with the first user;

ii) creating a user or account identifier associated with the first user; and/or

iii) storing in association with the first user account, the user or account

identifier;

f) receiving an operation by the user at a first hardware terminal, wherein the first hardware terminal belongs to the one or more terminals in the first set of terminals;

g) performing a first processing of the operation, wherein performing the first processing of the operation comprises:

i) receiving an encrypted first payload from the first hardware terminal;

ii) the encrypted first payload is produced by encrypting a first payload, the first payload produced by the hardware terminal, and wherein the first payload comprises a phone number, the phone number received from the user at the first hardware terminal;

iii) wherein the encrypted first payload is communicated from the hardware terminal during a secure session;

iv) sending an SMS verification code to the phone number.