Activity in SASJ toward Standardization

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From the beginning of the establishment of SASJ in 1994, "standardization" has been the keyword of our society and one of our missions with the background of the working in XAMAS-SCA-Japan. First, I will cite the regulations of SASJ (Surface Analysis Society of Japan), which can be seen in the last part of each issue of JSA (Journal of Surface Analysis). In Article 2, SASJ shall devote study to domestic and international collaborate research in order to improve reliability and utilize them for standardization in the surface analysis. For these purposes SASJ shall conduct symposiums and documentations of standards as well as the construction of surface analysis database. In Article 3, there are 7 items of our workings to realize the purposes in Article 2. The item 2 and 4 are "The documentation of TASSA reports and discussion : TASSA レポートの作成及び審議" and "Distribution of standard materials and software : 標準試料、ソフトウェアの販売", respectively. In this report, I will briefly introduce the TASSA (Testing And Standards for Surface Analysis) reports, standard materials, and related activities.

TASSA report

In SASJ, the documentation of standards, considering ISO and JIS (Japanese Industrial Standards), for various procedures in surface analysis has been proceeded as TASSA report. A TASSA report is completed as followings.

1) RRT (round robin test) and/or collaborating study in SASJ.
2) Proposal of "Egg of TASSA report : TASSA レポートのたまご".
3) Discussion in SASJ meeting.
4) Documentation of the report according to experimental results and consensus in SASJ.
5) Accomplishment after discussing the document.
6) additional: Proposal to METI (Ministry of Economy, Trade and industry) [previous MITI (Ministry of International Trade and Industry)] as a Technical Report.
7) additional: Proposal to JIS and/or ISO.

Here the TASSA reports are listed. (cf. SASJ web site, J. Surf. Anal. 1, 267 (1995))

不純X線： Ghost x-ray (in primary x-ray source of XPS).

励起X線強度の管電圧、管電流依存性： Dependence of primary x-ray intensity on tube voltage and current.

ウィンドウの厚さとX線透過率の関係： Relationship between the thickness of aluminum window and x-ray

transmittance

バックスキャッタ補正係数の計算方法：Calculation method of backscattering correction factor

バックスキャッタリング効果の補正方法：Correction method of backscattering effect

TPP-2M 式による電子の非弾性平均自由行程の推定法：Estimation of electron inelastic mean free path by TPP-2M formula

For the Eggs of TASSA reports, we have more than ten proposals, such as "Focusing of CMA", "Determination of peak position as center of gravity", "standard of checking quality of spectra", "Estimation of depth resolution in depth profile", and so on. (cf. J. Surf. Anal. issues) The discussions of the eggs of TASSA reports have been formally continued, though they are effectively discontinued. This is mainly because the small frequency of SASJ meeting, three times a year, in other words because we have to spend a long time to reach the consensus with every short time discussion in conjunction with SASJ meetings. It shall be needed for us to do an effective discussion and get a rapid documentation.

Two TASSA reports of "Calculation method of backscattering correction factor" and "Estimation of electron inelastic mean free path by TPP-2M formula" have been registered as the technical reports by MITI. One of the Eggs of TASSA reports, "Quantitative Analysis with Experimentally Determined Relative Sensitivity Factors" is developed as the Committee Draft in ISO/TC201.

Standard materials

SASJ distribute two standard materials, Au-Ag-Cu set and GaAs/AlAs superlattice. The former is the assembled material that the mirror-polished Au, Ag, and Cu plates are mounted on the metal and it is useful for energy/intensity calibration. The latter one, shown on the advertisement page in JSA issue and the web site of SASJ, is [GaAs (25 nm) / AlAs (25 nm)]x2 / GaAs substrate. This was certified by National Institute of Materials and Chemicals (currently: National Metrology Institute of Japan, AIST) . It is applied to optimize the ion sputtering conditions in depth profiling measurements and to estimate the sputtered depth. (cf. ISO 14606)

Other activities

Several members in SASJ play important roles, domestic members and/or international members, in ISO/TC201 and TC202. SASJ is potentially a good society to collect practical comments based on routine analysis works. Many members in SASJ are collaborating with the activity of TW2 (Surface Chemical Analysis) in VAMAS. (cf. Bulletin, VAMAS).