

Referência: 102-174

Área: Materiais Cerâmicos

Sub-Área: Caracterização de materiais

Título: Production of standard reference samples for powder diffraction

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Trabalho Completo: Não

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Resumo: Powder diffractometers must be very carefully aligned and calibrated and this procedure generally is checked by the measurement of standard samples. For neutron and synchrotron diffractometers is also necessary to determine the energy of the radiation by the measurement of standard samples. For powder diffraction profile analysis it is necessary to obtain the instrumental broadening to deconvolute it from the total profile broadening. In this case, besides having crystal structure and cell parameters very well defined, it is imperative that the standard presents large crystallite size and no microstrain. For quantitative phase analysis, internal standards are used. For these applications normally are used the expensive "NIST Standard Reference Materials". To attend the powder diffraction community, we are developing cheaper materials that match these requirements. The results show that the samples fulfill the requirements to be used as powder diffraction standards. Work supported by Brazilian Agency CNPq (proj. # 480337/2007-1).