

Ivan Šolc: Электропроводность и термоэлектродвижущая сила серого олова

дены также приближенные формулы для вычисления этих передвижений. Одновременно на основании предыдущих результатов, был произведен анализ максимальной допустимой конвергенции, которая также была выражена приближенной формулой.

Настоящая работа представляет собой часть аспирантской работы, выполненной в Институте электротехнической физики в Праге.

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FURTHER INVESTIGATIONS ON THE BI-REFRACTING FILTER

(Excerpt from Preceding Paper)

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This paper deals in greater detail with some questions only lightly touched on in a previous report.

For the optimal angle ε , which is included by the principal directions of the consecutive plates, a simple relation has been found (1) i. e. the angle ε depends only on the number of plates which the filter contains. This relation holds for filters of the first and second modification.

The question of tolerances during production of the filter was also dealt with in detail. The quality of the filter depends on the purity and homogeneity of the material. The angle of cut must be kept to with an accuracy of about $10' - 30'$, the thickness and parallelity of the optical flats after polishing must be measured interferometrically. Otherwise the difficulties in producing the filter do not exceed those encountered in the production of conventional optical products.

The original assertion about the use of oblique cuts for the production of filters had to be corrected; only cuts parallel to the optical axis of the crystal can be used, a fact accounted for by the propagation of light in crystals.

The possibility of tuning the filter by varying the inclination was also studied in detail. There are two possible perpendicular directions, given by the centre-lines of the principal directions of the plates. The use of these two directions permits the tuning of the filter between very wide limits both in the direction of shorter as well as longer wavelengths. The shift of the passband as a function of the angle of inclination can be approximately described by Eq. (3) the validity of which is also proved by a diagram. After introducing simplifying assumptions a relation for the maximally permissible convergence of the light was derived on the basis of Eq. (3). Although the simplifying assumptions are not quite justified, it is shown that in practice Eq. (4) thus derived is quite satisfactory.

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