

Software for determination of surface tension with sessile drop method

Mykhailo Lytvyn, author

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20496956&lokasi=lokal>

Abstrak

ABSTRAK

The sessile drop method was implemented to calculate the values of the surface tension coefficient of liquid metals. Appropriate software was developed to increase the data processing efficiency and the accuracy of the obtained results. This paper provides information on the structure and applications of the designed programs as well as the underlying mathematical models used during computations. Since the determination of the surface tension coefficient in this study is based on the recognition of drop outlines from a digital image, the problems of calibration and appropriate photography mode adjustments are mentioned in this paper. In addition, the methods of controlling their search equipment using Arduino shields are described. Finally, the research results are presented in the form of graphs which show the temperature dependence of the studied parameters of metallic samples and compared with the literature data.