

O9 | A new approach to the presentation of the Positron Annihilation Lifetime Spectroscopy results

B. Zgardzińska^{1,*}, K. Standzikowski²

¹*Institute of Physics, Maria Curie Skłodowska University, 20-031 Lublin, Poland*

²*Department of Geoecology and Palaeogeography, Maria Curie-Skłodowska University
Lublin, al. Kraśnicka 2cd, 20-718 Lublin, Poland*

*email: bozena.zgardzinska@poczta.umcs.lublin.pl

The PALS technique (Positron Annihilation Lifetime Spectroscopy) is used to determine the phase transitions points in the matter (organics, polymers, glasses). Until now it was generally accepted to present and analysis the changes of the spectra parameters (especially the lifetime and the intensity of o-Ps) as a function of external factors, e.g. temperature and pressure, which is correlated with the phase transitions occurring in the medium. We propose a different, new approach in the presentation and analysis of the results, which – as we show – brings important information about the nature of the phase transitions and gives new look at the distinguishing of phases in organic compounds. We have found a general trends in o-Ps parameters closely related to the crystallographic structure in groups of compounds based on the figure in the coordinates (I_3 , τ_3). We propose to include (join) such a presentation of the results to the standard demonstrated in the papers dependencies.