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LUMIDOZ 9: THE 9TH
INTERNATIONAL CONFERENCE on
LUMINESCENCE and ESR
DOSIMETRY



NUBA - Akdeniz University

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Book of Abstracts

LUMIDOZ 9: THE 9TH INTERNATIONAL CONFERENCE on LUMINESCENCE and ESR DOSIMETRY

2-4 September 2015

NUBA - AKDENIZ UNIVERSITY

ANTALYA / TURKEY

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Dr. Shin TOYODA

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Determination of trap parameters using peak shape method in quartz

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In this study, kinetic parameters related to the TL glow peaks in natural quartz from Balıkesir, Turkey were determined with peak shape (PS) method for quartz. The TL glow curves were recorded from 2.4 Gy to 38.4 Gy doses at heating rate 1 °C/s. The TL glow curves of quartz exhibit main peak having the maximum temperature around 110 °C, 325 °C and 240 °C shoulder form. The main peak 110 °C TL glow peak was investigated with peak shape method (PS). This method was used to determine the kinetic parameters (activation energy (E_a), frequency factor (s)) related to the TL glow peaks in natural quartz. It was also calculated geometrical shape parameters (T_m , T_1 , T_2 , τ , δ and ω) of natural quartz with the help of the TL glow curves readings for all beta radiation doses.

Keywords: Thermoluminescence, quartz, peak shape method.