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Edited by  
Gregory T. Papanikos

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Abstracts  
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**5<sup>th</sup> Annual International Conference on Physics**  
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## **Theoretical Study on Heating Rate Effect Using Simulated Thermoluminescence Glow Peaks**

Luminescence describes the emission of light. Luminescence emission occurs after an appropriate material has absorbed energy from a source such as ultraviolet (UV) or X-ray radiation, electron beams, chemical reactions, and so on. Thermoluminescence (TL) is a form of luminescence that is exhibited by certain crystalline materials, such as some phosphors, when previously absorbed energy from alpha, beta, gamma radiation or other ionizing radiation is re-emitted as light upon heating of the material. The phenomenon is distinct from that of black body radiation. TL glow peaks of obtained from thermoluminescent materials are characteristics of the different trap levels for the band gap of the material. In this study, heating rate (HR) effects on TL glow peaks were studied in details using first order simulated TL glow peaks. In order to determine thermal quenching and temperature lag effects, which are depend on the HR, non-overlapping TL glow peaks were obtained from Mathematica software. In all calculations, different 15 HR values, between 0.5°C/s and 50°C/s, were used and then all results related to HR values were evaluated.

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