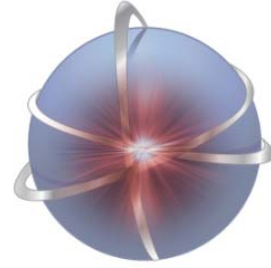




# **TESNAT 2016**

*28-30 April 2016 Mustafa Kemal University, Hatay, Turkey*

International Conference on  
**T**heoretical and  
**E**xperimental  
**S**tudies in  
**N**uclear  
**A**pplications and  
**T**echnology



*Abstract Book*

**Editors**

Eyyup TEL, Abdullah KAPLAN, Bayram DEMİR



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Editors

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[tesnat.org](http://tesnat.org)

Dear Colleagues,

Welcome to the International Conference on Theoretical and Experimental Studies in Nuclear Applications and Technology (TESNAT 2016). This conference is the second step of the TESNAT Conference series. TESNAT 2015 was held in Osmaniye Korkut Ata University with 177 participants. 38 oral and 77 poster presentations had been given last year. The world of nuclear physics is an exciting area in which to work, and we'll continue to meet and bring inspired people together in conference like this, to ensure TESNAT remains at the cutting edge.

We intend in this conference to discuss and compare all applicable methods as are being applied at present in nuclear physics. The problems faced in these fields at present are focused in the development of new methods and in the improving of existing techniques to achieve an understanding of existing experimental data and in predicting with high reliability new properties and processes. We propose this conference as a mean to bring together all these related communities with the goal of creating an enriching dialog across the disciplines. The conference will give an overview on the theoretical and experimental challenges in nuclear physics and applications.

We'd like to thank each of you for attending our conference and bringing your expertise to our gathering. You are truly our greatest asset today and tomorrow, and we could not accomplish what we do without your support and leadership.

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## **Preliminary Results on Dose Response of Serpentine Mineral**

**TOPAKSU M.<sup>1</sup>, BOZDAĞ Ö.E.<sup>1</sup>, DOĞAN T.<sup>2</sup>, YÜKSEL M.<sup>1</sup>, AKÇA S.<sup>1</sup>,  
PORTAKAL Z.G.<sup>1</sup>, BALCI YEĞEN S.<sup>1</sup>, PARLAK O.<sup>3</sup>**

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In this study, the relationship between the dose and the TL response of the serpentine mineral were studied over the dose range of natural – 30 Gy of beta irradiation. All measurements were carried out with a Lexsyg smart TL/OSL reader. The irradiator built in the Lexsyg smart TL/OSL reader system is a <sup>90</sup>Sr/<sup>90</sup>Y beta source with 1.95 GBq which emits beta particles with a maximum energy of 2.2 MeV. After the sample was exposed to β-irradiation of 1 Gy (<sup>90</sup>Sr/<sup>90</sup>Y), TL measurements were performed from room temperature up to 500°C with a heating rate of 20°C/s. The apparent TL peaks were observed at the temperatures of 150°C, 225°C, and 340°C.