

**SEARCHING FOR THE PROVENANCE OF SEDIMENTS FROM MARINE  
CORES USING MINERALOGICAL AND LUMINESCENCE PROPERTIES OF  
TERRIGENOUS GRAINS**

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Studies of marine cores provide a wealth of information that can unveil robust paleoenvironmental archives, including the provenance of sediments in which proxies such as stable isotope ratios, magnetic parameters, and grain-size distribution are regularly used. Using these proxies and others, for example, it was possible to pinpoint two different sources of sediments from core 6112-2 obtained at upper continental margin of the Rio Grande Cone off southern Brazil. My project will test the use of new proxies to assess sediment provenance from this same core by using terrigenous grain properties, particularly mineralogy, texture, and luminescence characteristics of grains. To determine mineralogy, optical microscopy and XRD analysis will be used in conjunction with Raman Spectrometry that will allow grain identification analysis not easily performed by the optical microscopy. This analysis includes the determination of heavy and light mineral varieties, opaque minerals, and fluid inclusions. Also, this technique will allow mineral identification in silt-sized fractions. The luminescence properties of grains will be analyzed using two methods. The first of them consists of thermoluminescence (TL) and optically stimulated luminescence (OSL) sensitivity of quartz grains. Recent studies have shown that this method can be applied to provenance studies. The second luminescence method will be the spectral analysis of cathodoluminescence (CL) time-series data of quartz grains. This analysis based in CL induced color using an optical microscope has been studied for some time, although its results are controversial. This subjective color-limited CL analysis approach was overcome with the advent of hyperspectral cathodoluminescence systems attached to a scanning electronic microscope. This new tool allows the measure of complete CL spectra over time and is particularly relevant for the analysis of the rapidly-changing CL signal of quartz grains, making it potentially useful for provenance analysis. My presentation will focus on the methodology of this new project, exemplified by data obtained from sediments of the Negev desert, Israel. This presentation will be given in Portuguese.

**Palavras-chave:** Testemunhos marinhos; Proveniência; Espectrometria Raman; Sensibilidade OSL e TL; Catodoluminescência