Rock and Roll: 13th International Symposium on Knappable Materials

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Multi-scalar Characterization of Raw Materials

Session 3: Spectroscopic Techniques for Raw Material Analysis

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During recent years, the development of geochemical non-destructive or micro-destructive methods to characterize lithic artifacts and potential sources has constantly been increasing due to the limitations of approaches based only on naked-eye examination and the need to preserve valuable and often unique archaeological materials, thus becoming a cutting-edge and challenging research field.

Several techniques, employing portable and non-portable devices such as X-ray fluorescence, infrared and Raman spectroscopy, and colorimetry and spectrophotometry among others, have been used to study lithic provenance sources and other features. In the same way, techniques such as laser induced breakdown spectroscopy and inductively coupled plasma mass spectrometry equipped with laser ablation ensure negligible damage of the objects.

This session covers a wide range of analytical techniques used to characterize the molecular and elemental features of lithic materials in order to tackle provenance, manufacturing, depositional and material conservation issues.

Studies combining spectroscopic techniques and others will be taken into consideration. Works cross-referencing analytical data and information from classic archaeological methods are also welcome. Finally, a debate will be open on the development of innovative methodological approaches and the quality of the obtained data.