

## **Ni-Rich Spinel as a Tracer of Impact Events: an Overview**

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Ni-rich spinel is a magnetic mineral formed by hypervelocity interaction of meteoroids with the Earth's atmosphere. It is distinguishable from terrestrial spinel on the basis of a high Ni content, due to the high abundance of this element in meteorites, and a high ferric/ferrous ratio resulting from the crystallization in an O<sub>2</sub>-rich environment, i.e. the Earth's atmosphere. Such chemical characteristics are unknown among volcanic spinels as terrestrial magma are strongly depleted in Ni relative to meteorites and evolved under relatively low oxygen fugacities. Oxidized Ni-rich spinel is therefore a specific marker of extraterrestrial material and can be used as a tracer of impact events in the sedimentary record. We will present an overview of the studies conducted on this mineral showing its potential as a tracer of impact events in marine sediments.