

**MS17-1-2 Structural study of metallic nanoparticles: two challenging cases**

**#MS17-1-2**

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**Abstract**

From a structural point of view, two very different classes of materials are still challenging for conventional X-ray and electron based techniques. Very small size objects obviously fall below the current limits of XRD and are even challenging for TEM studies, not only because of their small size (typically less than 2 nm) but also of their reduced phase contrast, related to a less compact structure [1, 3, 6].

Surprisingly, much bigger objects are also challenging and sometimes classified as amorphous despite a purely metallic very strong local order. For these two classes, spontaneous or radiation induced metastability can make structural studies even more tricky [2, 4-5] and these materials often remain non described, despite their potentially important magnetic or catalytic properties. PDF analysis can still bring insights in such conditions, however a complete and accurate description is still unachieved. Different published case studies based on in-lab measurements will be presented.

**References**

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