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α -PbO₂-type nanophase of TiO₂ from coesite-bearing eclogite in the Dabie Mountains, China—Comment

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ABSTRACT

In a recent paper, Wu et al. (2005) claimed that they had found nanoscale TiO₂ with the α -PbO₂-structure in omphacite from a coesite-bearing eclogite at Shima in the eastern part of the Dabie Mountains, China. However, some results in their paper are questionable. First, the defects that were regarded as intercalated α -PbO₂-type TiO₂ lamellas by Wu et al. may be induced during the preparation process of rutile. Second, the SAED pattern in Figures 1b, 2b and 3 from Wu et al. is not due to the diffraction of intercalated α -PbO₂-type TiO₂. Third, the lattice parameters reported by Wu et al. are too accurate to be derived only from HRTEM and SAED analyses. In this comment we show evidence for our doubts about their analysis.

Keywords: TEM, α -PbO₂-type of TiO₂, mechanical twin, defect