

## **Role of iron on structure and properties of glasses and melts**

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Redox of glasses and melts is one of the most important key points in Material and Earth Sciences. Redox plays an important role during melts elaboration in furnace: for instance, viscosity properties can change as a function of redox, and also for the final product redox can affect optical properties, durability, density...

But several issues are still in suspend: -i) does the same redox mechanisms occur at high and low temperature? -ii) what are the driving forces of the redox mechanisms? -iii) what is the change around the redox occurs during redox change?-iv) what is the change in the glass structure during redox change?

To answer, at all these questions, several experiments have been made by Raman spectroscopy, X-Ray Absorption spectroscopy, viscosity measurements, and show very interesting behavior on the iron, but also on the alkali or earth-alkaline element during redox changes. During the presentation, we plan to present and discuss these results.