



Contribution ID: 21

Type: **Talk**

SFCA-I-type solid solutions in the system CaO-Fe₂O₃-FeO-Al₂O₃ –structural investigations on an iron-ore sintering phase

Tuesday, 15 March 2022 14:40 (20 minutes)

Effects of Fe ↔ Al substitution on SFCA-I-type compounds with general formula A₄O₅₆ (A: Ca, Al, Fe³⁺, Fe²⁺) have been studied using single-crystal X-ray diffraction. The present investigation provides a detailed crystallographic analysis on the impact of chemical variations on a compound that is of relevance for the field of applied mineralogy related to the technologically important process of iron-ore sintering, where it represents the binding matrix that keeps the sinters intact.

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Session Classification: Solid State and Materials Chemistry I

Track Classification: Main conference: Engineering Materials and Applications