Raman Spectroscopy of Material Burnt in Electric Arc (A Case Study)

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Abstract. The study presents the analysis of a sample of powder adhered to an electrical installation and of a created sinter that are the result of an arc burning after an electric short-circuit. As revealed by Raman spectroscopy, the powder sample contains Fe_3O_4 and Fe_2O_3 grains. Ferric oxide and graphite material were identified in the sinter. The accident that led to bus burning in the electric arc was caused by a short-circuit due to deposition of conductive microscopic iron oxide particles on the contacts.