

## **Mineralogy and chemistry of conventional and fluidised bed coal ashes**

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**Abstract.** Coal combustion residues represent very abundant inorganic waste materials. The change from conventional combustion of powdered North Bohemian brown coal to its combustion in fluidised bed boilers in several Czech power and heating plants calls for detailed mineralogical and geochemical characterisation of the combustion residues. The main differences between fly ashes from both combustion systems result from different burning temperatures and differing systems of desulphurisation (coeval with combustion / post-combustion). Both these factors influence the chemical and phase compositions as well as the speciation of trace elements. The study further shows that the validity of the surface enrichment model (Linton et al. 1975) can be limited.

**Key words:** brown coal, power plant, conventional coal combustion, fluidised bed combustion, fly ash, mineral composition, trace elements, heavy metals