DISPLACEMENT OF THE IGNITION FURNACE IN THE IRON ORE SINTERING WITH RE-CIRCULATION OF WASTE GASES

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Resumo:
In search of new technologies for the iron ore sintering process, the re-circulation of waste gases in the process can provide some advantages in relation to the conventional process. For such study, a sintering multi-phase model was used for the assessment of the re-circulation of waste gases in the process. Five cases of re-circulation of waste gases in the sintering process were analyzed, always aiming at a stable operation in the process. The results of the simulation indicate an enlargement of the combustion front with the re-circulation of the waste gases and the possibility of existing a reduction of the solid fuel consumption. As a result, there was an increase of the calcium-silicate fraction, providing a sinter reducibility improvement, apart from the reduction of the emission of CO2 and PCDD/Fs in the sinter machine.