

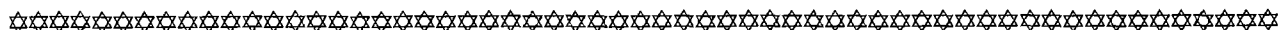
$F_{\text{NO}_x}^0$

(2) Coal samples undergone shorter devolatilization time leads to lower $F_{\text{NO}_x}^0$ during combustion, and the authors think it may be due to the fuel rich circumstance in the vicinity of coal particle surface caused by the larger amount of volatile matters releasing during combustion for the coals undergone shorter devolatilization time.

(3) The preheating temperature of combustion air had a significant effect on conversion of NO_x . There existed a critical temperature. At such temperature the overall conversions ratio of coal-nitrogen into NO_x , $F_{\text{NO}_x}^0$, was the lowest.

References

- 1 J D Spengler, M Brauer, P Koutrakis. Environ Sci Tech, 1990, 24(7): 946
- 2 T Nakajima. Shokubai(In Japanese), 1990, 32: 236
- 3 Wendou Ma. Air Pollution Control Engineering (in Chinese). Beijing :Metallurgy Publishing House, 1994
- 4 Geping Qu. Adopt Pratical Measures to Control Smog and Dust Pollution(in Chinese). Atmospheric Environment, 1987(4): 1
- 5 J D Freihaut, M F Zabielski, D J Seery. In: Proc 19th Symposium (International) on Combustion. Pittsburgh: The Combustion Institute, 1982. 1 159
- 6 P R Solmon, D G Hamblen, R M Carangelo, J L Krause. In: Proc 19th Symposium (International) on Combustion, Pittsburgh: The Combustion Institute, 1982. 213



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Simulation and Optimized Design of Grid Concentration Transducer for Two-Phase Flow

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ABSTRACT A new concentration transducer for the measurement of gas/solid two-phase flow in the profile of pipeline was studied. The design of grid electrode was employed, and hence the distribute of electric field in the space was homogeneous effectively. The variance of measurement value for the influence of flow regime variations has greatly reduced, and the precision of measurement was improved. Meanwhile, optimization of axial property in the grid electrode increases the ability of tracing and measuring of the concentration signal in real-time.

Key words: grid electrode; transducer; measurement; simulation and optimization

Mechanism of Increase in Strength of Sodium Silicate-bonded Sand by Silica Sand Surface Modified in High Temperature.

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ABSTRACT With the aid of XRD, SEM and EDS etc., there is absorbed film on sand grain surface, high temperature modify makes the film sintered firmly on sand grain surface. Thus it changes physical and chemical characteristics of the film and sand grain surface, improves the wetting properties greatly, makes the fracture features of bonding bridge change from the adhesive to the cohesive and raises the strength of sodium silicate-bonded sand.

Key words: foundry silica sand; high temperature modify; sodium silicate-bonded sand; strength