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Experimental and Theoretical Studies on Desulfurization Efficiency of Dual-alkali FGD System in a RST Scrubber

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**摘要** The effects of operating parameters on desulfurization efficiency of a dual-alkali FGD process in a rotating-stream-tray (RST) scrubber are investigated. A dimensionless factor,  $e$ , is proposed in this study to predict desulfurization efficiency of this dual-alkali FGD system.  $e$  represents the desulfurization ability of a dual alkali FGD system, determined by five main operating parameters such as sodium ion concentration, ratio of absorbent flow rate to flue gas flow rate, pH value of absorbent solution, ratio of sulfate ion to total sulfur ion in absorbent solution, and sulfur dioxide concentration of inlet flue gas. The empirical expression for predicting desulfurization efficiency at different temperatures is obtained through the experimental study and theoretical calculation. It provides useful guide for engineering design.

**关键词** [desulfurization,efficiency](#) [dimensionless factor,dual-alkali FGD,RST scrubber](#)

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