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锌精馏铅塔燃烧室煤气喷口 和空气喷口流量分布

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摘要: 为了研究锌精馏过程中铅塔燃烧室内煤气喷口、空气喷口的流量分布, 基于流量方程、能量方程建立了混联管道流量分布数学模型, 并编制了计算程序. 计算结果表明: 铅塔燃烧室内各层煤气、空气流量分布不合理, 而同一层中4个喷口的流量差别更大, 且煤气喷口流量与空气喷口流量不匹配, 在铅塔燃烧室的上三角区域内, 煤气流量大于空气流量, 而在铅塔燃烧室的下三角区域内, 空气流量大于煤气流量. 通过对铅塔燃烧室进行测试, 并经过测试和计算, 结果表明: 铅塔燃烧室内存在上三角高温燃烧区以及下三角燃烧低温区, 同时, 高温烟气中含有不同含量的可燃物CO; 铅塔燃烧室内煤气、空气喷口面积尺寸分布不合理, 应该调整、改造.

关键字: 铅塔; 燃烧室; 煤气喷口; 流量分布

Flux distribution of coal gas spout and air spout in combustion chamber in lead column in process of zinc refining

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Abstract: In order to investigate flux distribution of coal gas spout and air spout in combustion chamber in the lead column in the process of zinc refining, a flux distribution mathematical model of mixed and joint pipeline is established based on flux equation and energy equation and a computer program is compiled. The calculation result reveals that flux distribution of coal gas and air is not reasonable in combustion chamber in the lead column, and flux difference between four spouts in the same layer is quite big and flux of coal gas spout and air spout does not match. And coal gas flux is bigger than air flux in upper triangle region and air flux is bigger than coal gas flux in lower triangle region. The results from the measurement of combustion chamber in the lead column reveal that there are high temperature combustion in upper triangle region and low temperature combustion in lower triangle region and there is different content combustible CO in high temperature smoke. The calculation and measurement results indicate that dimension distribution of coal gas spout and air spout is not reasonable and needs to be adjusted and reconstructed.

Key words: lead column; combustion chamber; coal gas spout; flux distribution

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