EFFECTS OF ELECTROSPRAY NOZZLE ON THE COLLECTION EFFICIENCY OF ELECTROSTATIC PRECIPITATOR

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In this study, the effects on collection efficiency by electrospray nozzle in electrostatic precipitator were investigated. Electrospray is a process that relies on electrostatic forces to break the liquid into fine charged droplets. One of the simplest ways to implement such a process is generally observed by applying a potential difference of several thousand voltages between a plate and the end of nozzle that supplied with liquid. Since the droplet are highly charged, coulombic repulsion force causes them to self-disperse, which prevents their coalescence and eases their penetration into the gas medium. To improve collection efficiency of electrostatic precipitator, electrospray nozzle installed at duct in front of the electrostatic precipitator. We performed experiment by changing electric field strength of electro-spray. In an experiment, collection efficiency was improved, when electric field strength of electro-spray was higher.