

# **Design And Testing Of A Triboelectrostatic Separator For Cleaning Coal**

**Prabhu Chandrasekhar**

## **(ABSTRACT)**

Numerous advanced coal-cleaning processes have been developed in recent years that are capable of substantially reducing both ash and sulfur-forming minerals from coal. However most of the processes involve fine grinding and use water as a medium; therefore, the clean coal products must be dewatered before they can be transported and burned in power plants. Unfortunately, dewatering is an expensive process, which makes it difficult to deploy advanced coal cleaning processes in commercial applications. Dry beneficiation technique is an alternate approach to solving this problem. Additionally, dry beneficiation process can be economically competitive and environmentally safe. Triboelectrostatic separation is one such technique that is the latest among the methods of cleaning fine coal. This thesis describes the design (mathematical and physical) and development of a novel triboelectrostatic separation technique.