The Panel Bed Filter for Simultaneous Removal of Dust and Sulfur,
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An old idea is to treat a gas by causing it to flow in the horizontal direction across a bed of a granular solid disposed in a tall, narrow "panel". The bed may be held in place, for example, by louvered walls that resemble venetian blinds.

Efficiencies beyond 99.99% have been measured for removal of redispersed fly ash from air at normal temperature. After a test, fly ash filter cake and a controlled amount of filter solid are removed by applying a surge backflow of gas from the clean side of the panel.

The paper will discuss problems yet to be faced in scaling up the device to commercial size and in projecting its performance at high temperatures, where a reactive filter solid might be used to remove sulfur species as well as dust.