Contribution ID: **77** Type: **Poster Presentation**

Study of the electrostatic precipitator efficiency according to particle size and HV supply

Wednesday 6 June 2018 13:30 (1h 30m)

In the framework of collaborations between the SIAME Laboratory of Pau University and the French Alternatives Energies and Atomic Energy Commission (CEA) on Marcoule Center, we are working on the improvement of an electrostatic precipitator (ESP) for gas cleaning.

The background of the present work was established during the past ten years. Several successive studies allowed improving the treatment efficiency of electrostatic precipitation (ESP). Improvements are based on the replacement of the classic wire active electrode by an optimized emissive conception and the use of a combined voltage (HV pulses superimposed on DC voltage).

`The presented paper is dedicated to the last new results due to a novel geometric arrangement. We are going to d`

-The first one is electrical one and based on the voltage type (DC or hybrid), the level and the repetition rate.
- The second one is based on size particles.

The behaviour of filtration efficiency is analysed over long operating times. The development of back corona, which affects the efficiency, acts first of all on the fine particles. This influence of particle size on filtration efficiency is more pronounced under direct voltage than under pulsed/direct voltage.

Author: SILVESTRE DE FERRON, Antoine (Laboratoire SIAME)

Co-authors: REESS, Thierry (Laboratoire SIAME); SOUAKRI, Sonia (Laboratoire SIAME); MARCHAND, Mickaël (CEA MARCOULE); LEMONT, Florent (CEA MARCOULE)

Session Classification: Poster 3 - Power Modulator Systems and Applications