

Non-destructive Neutron Imaging to Analyze Particulate Filters

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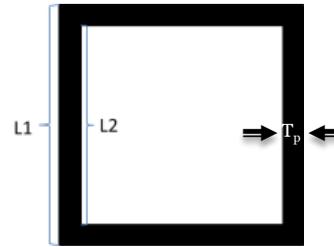


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Soot layer thickness and axial profile measured during sequential regeneration

- Implemented a non-destructive, non-invasive neutron imaging technique
- Tomographic approach employed to analyze cross sections of research-sized DPFs
 - Combined image enhancement to quantify location of particulate
- Profiles shown to be relatively uniform
 - initial and during regeneration



$$A_{outlet} = L1 \times L1 \text{ (outlet channel area)}$$

$$A_{inlet} = L2 \times L2 \text{ (inlet channel area)}$$

$$\text{Particulate layer thickness: } (T_p) = (L1-L2)/2$$

