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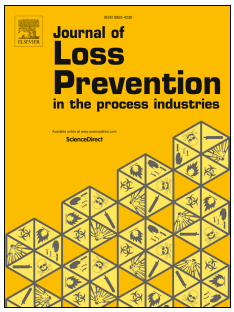

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Construction of a 36-L Dust Explosion Apparatus and Turbulence Flow Field Comparison with a Standard 20-L Dust Explosion Vessel

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Abstract

By modifying the dispersion system and the ignition delay time, and hence the flow field and turbulence intensity during the combustion process, the 20-l dust explosion vessels have been calibrated to give results comparable to the 1-m^3 vessel as prescribed in the former standard (ISO-6184). However, the results obtained from experiments conducted in the two vessels do not