

## **Abstract**

### **Wear Depth Evaluation During Erosion of X65 Carbon Steel Using RMS Values of Measured Acoustic Emission Signals**

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The root mean square (RMS) of acoustic waves emitted during erosion of X65 carbon steel materials under submerged impinging jet at 50 °C has been measured and its values have been correlated with the erosive wear depth calculated from profilometry. An approximate relationship has been established in order to explain the erosive wear behaviour of X65 carbon steel for different flow velocities and sand concentrations which is intended for petroleum pipeline integrity monitoring.

Key Words: Erosion, Acoustic Emission, Wear Depth