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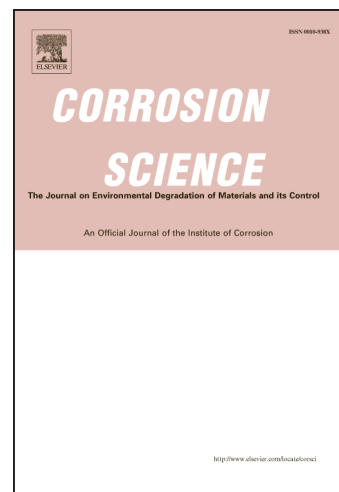
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## Influence of an aerated/anoxic transient phase on the long-term corrosion of iron

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This paper deals with the influence of an aerated/anoxic transient phase on the corrosion of ferrous matters. Actually in the context of radioactive waste disposal, metallic components could be exposed to fluctuating environmental conditions that could change the corrosion mechanisms and influence the corrosion rates. Archaeological analogues corroded in an aerated soil were exposed to an aerated/anoxic transient in an isotopic labeled solution. The corrosion mechanism in anoxic conditions does not seem to be influenced by the pre-existing thick corrosion layer formed in an aerated environment and the estimated corrosion rate is of few micrometres per year.

### **Keywords:**

Iron, Raman spectroscopy, SIMS, thermodynamic diagrams

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