

Some Examples of Technical Writing

Here are some examples of technical writing that can be improved:

1. Taken from a recent paper. Context: comparing experimental and simulation results for corrosion damage in a crevice.

There does appear to be some difference with respect to damage near the mouth. Specifically, our model predicts more damage closer to the crevice mouth as compared to the experimental results. This is a reflection of two variables: 1) the potential difference between E_{OCP} and E_{crit} and 2) the area under the polarization curve between E_A and E_{crit} . In other words, it is an indication that there are differences between the polarization curve of Ni in sulfuric acid used for the model (Figure 1) and the *true* polarization curve inside the crevice.

2. The abstract of a paper.

The problem of finding the solution of partial differential equation with source control parameter has appeared increasingly in physical phenomena, for example, in the study of heat conduction process, chemical diffusion and control theory. In this paper we use a high order scheme for determining unknown control parameter and unknown solution of parabolic inverse problem. In the the proposed numerical scheme we replace the space derivative with a fourth-order compact finite difference approximation. We will investigate the stability and convergence of proposed scheme and show that the convergence order is $O(\tau^2 + h^4)$. Numerical results corroborate the theoretical results and high accuracy of proposed scheme in comparison with the other methods in the literature.

3. Taken from a Ph.D. proposal. PE is polyethylene, a type of polymer in the shape of a long chain. XPE is crosslinked polyethylene; when the chain is folded onto itself, it can attach via crosslinks.

Crosslinking of PE was aimed to introduce permanent chemical crosslinks into PE which transforms the virgin PE into XPE. Typically, the crosslinking render the virgin PE into a material exhibiting lower Young's modulus, yield stress, strain and stress at break. However, the permanent network created by crosslinking enables the crosslinked PE to maintain its mechanical integrity at elevated temperature and in long-term usage. Thus, XPE is widely used for various application including large storage containers, large structural parts, hot water pipes, electric cable insulation layers and etc.