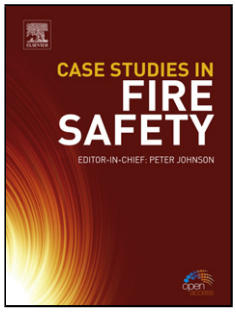

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Enhancement of Oxidation Resistance of Zirconium Alloy with Anodic Nanoporous Oxide Layer in High-Temperature Air/Steam Environments

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Highlights

- By anodization treatment, highly-ordered and hexagonally close-packed nanoporous oxide layer formed on the surface of Zr-Nb-Sn alloy.
- Anodic nanoporous oxide film decreases the corrosion of the Zr-Nb-Sn alloy
- Tetragonal zirconia dominate at 500 ℃ for the specimens that have anodic nanoporous oxide film.
- Large columnar oxide grains formed after oxidation of the specimens that have anodic nanoporous oxide film.