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Advanced Coatings for Accident Tolerant Fuel Claddings

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Message from the Guest Editor

The aim of this Special Issue is to highlight and summarize the latest achievements in the field of protective coatings for enhanced accident-tolerant fuel (E-ATF) claddings. Various metal, ceramic, MAX-phase, high-entropy, and other coatings can be used for this purpose. Various methods of physical vapor deposition (PVD), chemical vapor deposition (CVD), laser cladding, cold spraying, and other surface modification methods are available for coating deposition.

The main focus of this Special Issue is to provide and publish recent developments in the area of ATF materials and technologies to protect fuel claddings against high-temperature corrosion and embrittlement. In particular, the topic of interest includes but is not limited to:

- Advanced ATF coatings;
- Characterization of ATF coating materials;
- Deposition techniques for ATF coatings;
- Diffusion barrier coatings;
- Metallic coatings;
- Ceramic coatings;
- Multilayer coatings;
- PVD and CVD coatings;
- Surface modification;
- Oxidation kinetics;
- High-temperature corrosion.

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Message from the Editorial Board

Now more than ever, research is asked to deliver knowledge and technologies to solve the major challenges faced by our society. The development of new materials and devices for (without the ambition to be exhaustive) energy, health and food technology, together with the need for establishing processes that reduce the impact on critical resources and the environment, is indeed in the spotlight of most contemporary research. Surface science and engineering play a key role in this regard, with an incredible potential in delivering new and deep scientific understanding and technical solutions essential to solve most of the major societal challenges.

Coatings is a well-established, peerreviewed, online journal dedicated to the vibrant field of surface science and engineering. Coatings publishes original research articles that report cutting-edge results and review papers that make the point on the hottest research topics.

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