Postdoctoral position offer in Naval Academy (France)

Place : Ecole Navale (French Naval Academy) Brest France

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Duration: 18 months

Beginning : First months of 2023

Abstract of the project: Use of electricity as the main energy vector in hybrid energy systems dedicated to ship propulsion is one of the most promising way to improve efficiency, reduce emissions and improve reliability. The particular specifications related to ships (mission profile, level of power and energy, available space on board) lead to the possibility to associate several energy sources and energy storage system in order to improve the ship propulsion behaviour. These sources and energy storages can include several Diesel Generators, Fuel Cells, batteries, super capacitators and/or renewable sources (PV for example). In such complex systems, optimal management and design of the multisource ship energy system is a challenging point. Naval academy facilities include a laboratory scale experimental platform. This experimental platform allows emulating the energy /propulsion system of a ship using Power Hardware In the Loop (PHIL) methods. It allows testing and validating power management and controlling methods for hybrid multisource ship energy systems.

The post-doctoral candidate will be involved in modelling and control of multisource systems for ship and will be in charge to propose and use multi-agent artificial intelligence based methods for the optimal management of multisource hybrid systems for ships. These methods will be tested and validated with numerical calculation and implemented in the Naval Academy experimental platform.

Qualifications and skills of the candidate: PhD in Electrical Engineering and/or Computer Science.

Particular conditions for the post-doctoral funding : As this postdoctoral position is funded by French Brittany region (funding is already accepted), the candidate needs to have spent at least 18 months in a country other than France from may 1st 2019 to January 2023 (the candidate can be french or foreign citizen)