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About the Cover Design

The cover design depicts white hexagons that are similar to a tortoise-shell pattern, representing the ancient Japanese symbol for the desire for a long life. Coincidentally, this is also the shape of the core fuel assemblies in the High-temperature Engineering Test Reactor.

The top-left figure shows the structure of graphene and a schematic illustration of the hydrogen-isotope separation device, which consists of an electrochemical reaction system with a solid electrolyte membrane. The bottom right figure shows a schematic image of the development and use of the Japanese Evaluated Nuclear Data Library (JENDL).

In the hydrogen-isotope separation device, graphene, which has high selective permeability for hydrogen-isotope ions because of the quantum tunneling effect, is incorporated into an electrochemical reaction system. Using this system, we aim to realize a low-cost deuterium separation device. Further details can be found on page 32 in Chapter 3, Topic 3-5.

The latest nuclear data library JENDL-5 was developed by integrating the latest J-PARC measurements and nuclear reaction model calculations to provide basic data for various fields involving the application of radiation. Further details can be found on page 37 in Chapter 4, Topic 4-2.



Other Publications

Industrially applicable patented technology and expertise of the intellectual property owned by the JAEA can be found in “JAEA Technology Seeds.”

The status of the activities of the whole agency, including CSR activities, can be found in the annual report, “Japan Atomic Energy Agency 2023 (Business Report FY2022).”