

RMB: the new brazilian multipurpose research reactor

Jose Augusto Perrotta¹

¹Instituto de Pesquisas Energéticas e Nucleares

e-mail: perrotta@ipen.br

The Brazilian research reactors have a limited capacity for radioisotopes production, leading to a high dependence on external supply for radioisotopes used in nuclear medicine. In order to overcome this condition and due to the old age of these research reactors, the Brazilian Nuclear Energy Commission decided, in 2008, to construct a new research reactor. The new reactor named RMB (Brazilian Multipurpose Reactor) will be part of a new nuclear research center, to be built on a site about 100 kilometers from São Paulo city, in the southern part of Brazil. The new nuclear research center will have a 30 MW open pool type research reactor using low enriched uranium fuel, and several associated laboratories in order to produce radioisotopes for medical and industrial use, to use neutron beams in scientific and technological research; to perform neutron activation analysis; and to perform materials and fuels irradiation tests.

Regarding the neutron beams use, the RMB design provides thermal and cold neutron beams. From one side of the reactor, the neutron guides will extend to an experimental hall of instruments named Neutron Guide Hall where it will be installed the scattering instruments. In the initial stage of the reactor operation, the intent is to implement two neutron guides for thermal neutrons and another two for cold neutrons.

The 2015 SBPMAT symposium has presented the technical overview of the RMB project and its main buildings, structures and components. At this year symposium, the RMB presentation updates some technical information and the development status of the project, discussing the negative results of the Brazilian political and economic crisis to the project development and its future perspectives.