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## Implementation of FISSIONIST's safety channels

FISSIONIST (FISSION reactor simulator at IST) is a full scope simulator of a low power fission reactor built by IST students, using a control system of the Portuguese Research Reactor (RPI). It is based on real control instrumentation of a fission reactor, connected to programmable impulse/current sources, which simulate the response of a neutron detector with a power range from less than 1 mW to more than 1 MW.

The aim of this project is the simulation, using a programmable current source, of the response from compensated ionization chambers connected to the FISSIONIST safety channels. Realistic physical models will be used to reflect the reactor's kinetic behavior, regarding its power and period, depending on the position and movements of the control rods, with parameters of operation of the RPI.

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