## JATON BA

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**Fission Chain Reaction Simulation** 







Figure 1: Example of one of the many possible reactions in uranium-235 fission process.

$$\frac{\mathrm{d}N(t)}{\mathrm{d}t} = \frac{\rho}{\Lambda}N(t) \tag{1}$$

where  $\rho$  is the reactivity and  $\Lambda$  is prompt neutron generation time



Figure 2: Control mechanisms for the reactor's control rods.



Figure 4: Control elements for managing the cooling system of the nuclear power plant.

Figure 5: Petri net representation of a random event generation system.

REQUEST A REPAIR
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WATER PUMP I WATER PUMP II WATER PUMP IV
₹
TURBINE
COOLING TOWER
4

Figure 6: In-game menu that the player uses to create a request for repairing failures of different parts.

