Birth-Death Model for Description of Transient Processes in Multiplying Medium with MOX-Fuel (P092)

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BASIC POINTS OF BIRTH-AND-DEATH MODEL

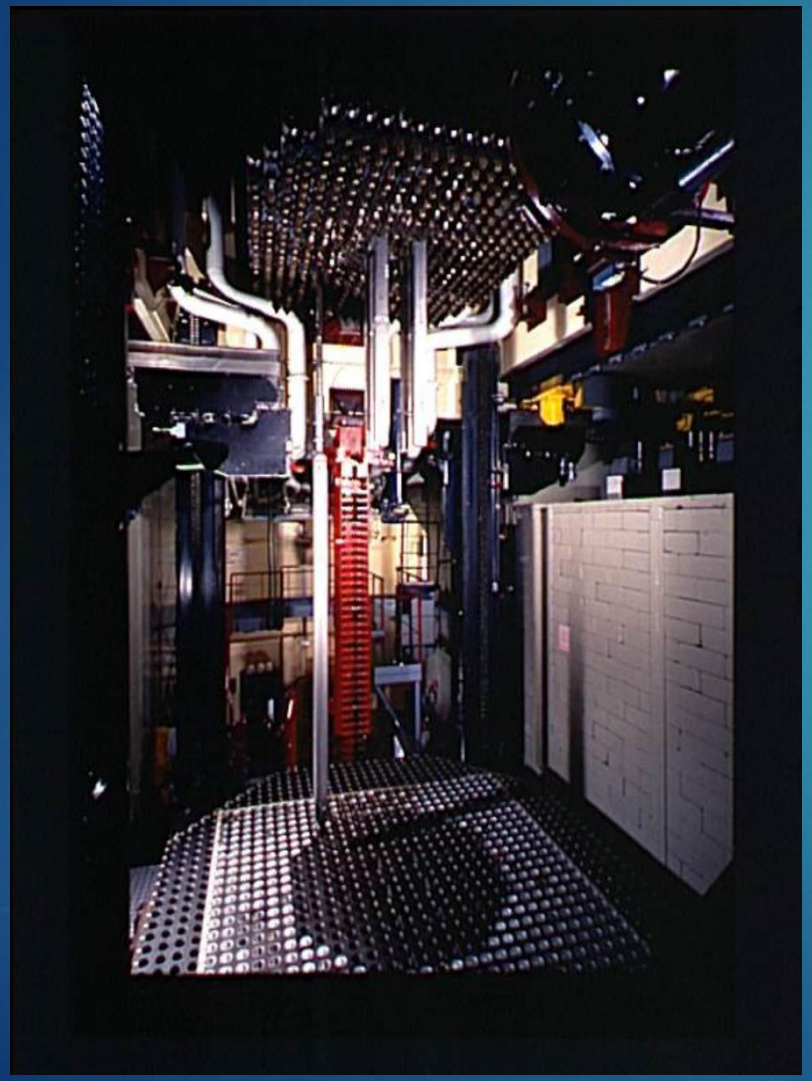
- $\frac{dP_{i0}(t)}{dt} = -\lambda_0(t)P_{i0}(t) + \mu_1(t)P_{i1}(t),$

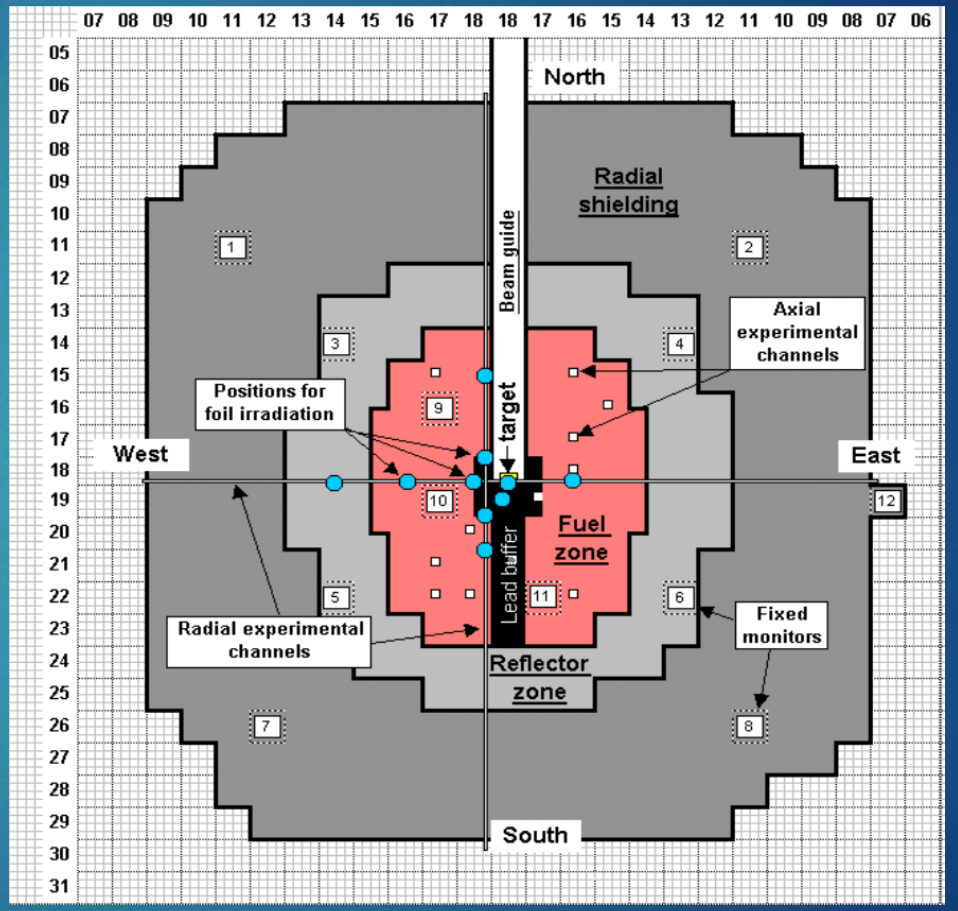
- *(1)*

- $\frac{dP_{in}(t)}{dt} = \lambda_{n-1}(t)P_{in-1}(t) - [\lambda_n(t) + \mu_n(t)]P_{in}(t) + \mu_{n+1}(t)P_{in+1}(t),\ n \geq 1.$

- $M(t) = M_0 \cdot \exp\{[(\rho + \beta - \beta \cdot \exp(-t/c)]t/[a - b \cdot \exp(-t/c)]\}$ *(2)*

THE MASURCA FACILITY





Ex. the definition of reactivity ρ

t_1, μs	τ_1, μs	t_1/τ_1	t_2, μs	τ_2, μs	t_2/τ_2	$t_1 - t_2$, μs	$\ln[M(t_1)/M(t_2)]$	ρ
8	0,604	13,25	14	0,622	22,51	-6	0,39	-0,042
10	0,61	16,39	20	0,64	31,25	-10	0,64	-0,043
10	0,61	16,39	60	0,76	78,95	-50	2,92	-0,047
25	0,655	38,17	60	0,76	78,95	-35	1,97	-0,048
12	0,616	19,48	30	0,67	44,78	-18	1,17	-0,046
18	0,634	28,39	50	0,73	68,49	-32	1,87	-0,047
<ρ>								-0,045