

(*Nuclear Species Experimental Data*)

isotopeName = "U-233";

databaseName = "JENDL-5";

atomicNumber = 92; (*Atomic number*)

neutronNumber = 142; (*Compound nucleus neutron number*)

(*Calculation Data Range*)

energyPattern = 3; (*Input required*) (*energyPattern=1;

Data at 0.0253eV*) (*energyPattern=2;

Data at 0.0253eV,500keV*) (*energyPattern=3;

Data at 0.0253eV,500keV,14MeV*) (*energyPattern=4;

Data at 500keV*)

(*Average Number of Prompt Neutrons*)

promptNeutrons1 = 2.497; (*0.0253 eV*)

promptNeutrons2 = 2.933; (*500 keV*)

promptNeutrons3 = 4.521; (*14 MeV*)

(*Neutron Separation Energy*)

neutronSeparationEnergy = 6845.5 / 1000;

(*Charge Distribution Experimental Data JENDL-5*)

yieldData0253eV = { {23, 1.9395800 * 10[^](-18)}, {24, 4.7149180 * 10[^](-14)},

{25, 1.9564253 * 10[^](-11)}, {26, 2.4292640 * 10[^](-09)},

{27, 5.8120002 * 10[^](-08)}, {28, 2.1277073 * 10[^](-06)}, {29, 2.1238754 * 10[^](-05)},

{30, 2.1356347 * 10[^](-04)}, {31, 1.3714399 * 10[^](-03)}, {32, 5.7203651 * 10[^](-03)},

{33, 1.2635055 * 10[^](-02)}, {34, 4.5523769 * 10[^](-02)}, {35, 6.1180197 * 10[^](-02)},

{36, 1.7881349 * 10[^](-01)}, {37, 1.2223762 * 10[^](-01)}, {38, 1.9893069 * 10[^](-01)},

{39, 1.2252070 * 10[^](-01)}, {40, 1.6079703 * 10[^](-01)}, {41, 5.1488355 * 10[^](-02)},

{42, 3.3556081 * 10[^](-02)}, {43, 3.4037124 * 10[^](-03)}, {44, 7.7093729 * 10[^](-04)},

{45, 2.7766192 * 10[^](-04)}, {46, 4.0452957 * 10[^](-04)}, {47, 3.0684672 * 10[^](-04)},

{48, 6.4484326 * 10[^](-04)}, {49, 4.1886236 * 10[^](-03)}, {50, 3.9938902 * 10[^](-02)},

{51, 5.9054768 * 10[^](-02)}, {52, 1.5496140 * 10[^](-01)}, {53, 1.0933581 * 10[^](-01)},

{54, 1.8970848 * 10[^](-01)}, {55, 1.2760284 * 10[^](-01)}, {56, 1.8015937 * 10[^](-01)},

{57, 7.5439083 * 10[^](-02)}, {58, 4.2046507 * 10[^](-02)}, {59, 1.1311828 * 10[^](-02)},

{60, 4.6284361 * 10[^](-03)}, {61, 6.5189816 * 10[^](-04)}, {62, 1.3860441 * 10[^](-04)},

{63, 1.2154116 * 10[^](-05)}, {64, 9.4474190 * 10[^](-07)}, {65, 3.1218573 * 10[^](-08)},

{66, 1.7602408 * 10[^](-09)}, {67, 4.7831576 * 10[^](-11)}, {68, 1.9634419 * 10[^](-12)},

{69, 1.6750416 * 10[^](-14)}, {70, 4.4242209 * 10[^](-17)}, {71, 0} };

yieldData500keV = { {23, 1.3304500 * 10[^](-18)}, {24, 4.0734560 * 10[^](-14)},

{25, 2.0682375 * 10[^](-11)}, {26, 2.9497964 * 10[^](-09)}, {27, 6.8446039 * 10[^](-08)},

{28, 2.3096487 * 10[^](-06)}, {29, 2.4492120 * 10[^](-05)}, {30, 2.3032832 * 10[^](-04)},

{31, 8.6591931 * 10[^](-04)}, {32, 4.8184891 * 10[^](-03)}, {33, 1.2464802 * 10[^](-02)},

{34, 4.6941559 * 10[^](-02)}, {35, 6.4163271 * 10[^](-02)}, {36, 1.6251272 * 10[^](-01)},

{37, 1.2148586 * 10[^](-01)}, {38, 1.9606439 * 10[^](-01)}, {39, 1.2044272 * 10[^](-01)},

{40, 1.4176988 * 10[^](-01)}, {41, 6.9939717 * 10[^](-02)}, {42, 4.9368408 * 10[^](-02)},

{43, 4.8283706 * 10[^](-03)}, {44, 1.8210398 * 10[^](-03)}, {45, 1.2080202 * 10[^](-03)},

{46, 1.6450812 * 10[^](-03)}, {47, 1.3005316 * 10[^](-03)}, {48, 1.9935849 * 10[^](-03)},

{49, 4.0546610 * 10[^](-03)}, {50, 4.7388849 * 10[^](-02)}, {51, 6.6327727 * 10[^](-02)},

{52, 1.5008923 * 10[^](-01)}, {53, 1.2500967 * 10[^](-01)}, {54, 1.8399314 * 10[^](-01)},

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{55, 1.2964181 * 10^(-01)}, {56, 1.5455756 * 10^(-01)}, {57, 7.2120142 * 10^(-02)},
{58, 4.4167589 * 10^(-02)}, {59, 1.2520996 * 10^(-02)}, {60, 5.0047611 * 10^(-03)},
{61, 9.4462787 * 10^(-04)}, {62, 2.5349105 * 10^(-04)}, {63, 3.2112581 * 10^(-05)},
{64, 2.0574505 * 10^(-06)}, {65, 8.6122205 * 10^(-08)}, {66, 5.8917332 * 10^(-09)},
{67, 2.1584943 * 10^(-10)}, {68, 8.4449408 * 10^(-12)}, {69, 1.7282211 * 10^(-13)},
{70, 7.8074632 * 10^(-16)}, {71, 9.3977000 * 10^(-20)}};
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yieldData14MeV = {{23, 2.4071900 * 10^(-13)}, {24, 1.1402617 * 10^(-09)},
{25, 1.9695899 * 10^(-07)}, {26, 5.1037107 * 10^(-06)}, {27, 3.0212411 * 10^(-05)},
{28, 1.1456633 * 10^(-04)}, {29, 3.7307472 * 10^(-04)}, {30, 1.1082888 * 10^(-03)},
{31, 3.1146315 * 10^(-03)}, {32, 7.8674530 * 10^(-03)}, {33, 2.0243504 * 10^(-02)},
{34, 4.1349462 * 10^(-02)}, {35, 6.7745881 * 10^(-02)}, {36, 1.0833892 * 10^(-01)},
{37, 1.2417831 * 10^(-01)}, {38, 1.3155392 * 10^(-01)}, {39, 1.2152981 * 10^(-01)},
{40, 9.8620785 * 10^(-02)}, {41, 7.8493301 * 10^(-02)}, {42, 5.9253394 * 10^(-02)},
{43, 4.1868430 * 10^(-02)}, {44, 3.8388374 * 10^(-02)}, {45, 3.6302172 * 10^(-02)},
{46, 3.5285276 * 10^(-02)}, {47, 3.5068330 * 10^(-02)}, {48, 3.5105681 * 10^(-02)},
{49, 4.7849279 * 10^(-02)}, {50, 6.6816907 * 10^(-02)}, {51, 7.7893742 * 10^(-02)},
{52, 9.7530614 * 10^(-02)}, {53, 1.1819071 * 10^(-01)}, {54, 1.2811692 * 10^(-01)},
{55, 1.3697081 * 10^(-01)}, {56, 1.0426530 * 10^(-01)}, {57, 7.1574423 * 10^(-02)},
{58, 3.6379958 * 10^(-02)}, {59, 1.7349547 * 10^(-02)}, {60, 7.0241157 * 10^(-03)},
{61, 2.7204453 * 10^(-03)}, {62, 9.2641255 * 10^(-04)}, {63, 3.0773823 * 10^(-04)},
{64, 1.0066067 * 10^(-04)}, {65, 3.1040784 * 10^(-05)}, {66, 9.2817538 * 10^(-06)},
{67, 2.4026634 * 10^(-06)}, {68, 6.1153115 * 10^(-07)}, {69, 8.1743673 * 10^(-08)},
{70, 2.6024813 * 10^(-09)}, {71, 1.0647540 * 10^(-11)}};
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