Dispalcements per $\frac{MW}{m^2}$

Definition of dpa (displacements per atom) is the number of times that an atom is displaced for a given fluence.

$$\frac{N_d}{N_o} = \varphi t \sigma_d$$

Example of 1 $\frac{MW}{m^2}$

$$\varphi = 4.43x10^{13}\ \frac{n}{cm^2 - s}$$

$$\sigma_d = 3,000b$$

$$\frac{N_d}{N_o t} = 4.43x10^{13} \bullet 3x10^{-21}$$

$$= 1.3x10^{-7}\ \frac{dpa}{s}$$

$$\approx 4\ \frac{dpa}{FPY}$$

Damage Rate in CTR materials	
Material	**dpa/FPY per MW/m^2**
316 SS	10
V	12
Mo	8
SiC	30
Al	17