

The Amount of Iron in A Typical Solar X-ray  
Bright Point:

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Typical Solar X-ray Bright Point, ~ 10,000  
km in diameter:

$10^4 \text{ km cubed} = 10^{27} \text{ cm}^3$   
 $n = 2.4 \times 10^9 \text{ cm}^{-3}$   
Hence  $2.4 \times 10^{36}$  particles

Relative Iron Abundance in solar corona:  
 $\text{Fe}/\text{H} = 1.56 \times 10^{-4}$  (roughly 1 in 10,000)

Hence  $2.4 \times 1.56 \times 10^{32}$  Iron nuclei ~  $4 \times 10^{32}$

Iron has 56 nucleons (26 protons 30  
neutrons).

Hence Iron mass in X-ray Bright Point  
 $= 4 \times 10^{32} \times 56 \times 1.67 \times 10^{-27} \text{ kg}$   
 $\sim 500 \times 10^5 \text{ kg} = 4 \times 10^7 \text{ kg}$

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Put that in Perspective:

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The light ship weight is the actual weight  
of a vessel when complete and ready for  
service but empty. Deadweight is the  
actual amount of weight in tonnes that a

vessel can carry when loaded to the maximum permissible draught (includes fuel, fresh water, gear supplies, crew, passengers).

Titanic's Lightweight was approximately 39,380 tonnes (Reddit).

$$\begin{aligned} \text{Weight in kg} &= 3.938 \times 10^4 \times 10^3 \text{ kg} \\ &= 4 \times 10^7 \text{ kg} \end{aligned}$$

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Coincidence?

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