

Captains' fight

Captains' fight n°3 : Question

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You have **2 minutes** to answer the following question :

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Question : How much electricity, in *joules*, was produced in the world in 2014 ?

Captains' fight n°3 : Answer

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You really need the answer? Come on...

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- ▶ From the International Atomic Energy Agency (IAEA), PRIS Database 2014 :

$$\mathcal{E} = 23\,307 \text{ TW}\cdot\text{h} = 2,3\cdot 10^{16} \text{ W}\cdot\text{h} = 8,39\cdot 10^{19} \text{ J} \quad (1)$$

- ▶ A possible way to get the order of magnitude : each person on Earth uses a computer 24 a day, every day. For a typical 100 W consumption, we get :

$$\mathcal{E} = 100 \times 24 \times 365 \times 7 \times 10^9 = 6,1\cdot 10^{15} \text{ W}\cdot\text{h} \quad (2)$$

You want more?

You want more?

Really?

You want more ?

Really ?

Quick : 1min

Question : How many orders of magnitude are there between the highest and lowest artificially obtained temperatures ?

You want more ?

Really ?

Quick : 1min

Question : How many orders of magnitude are there between the highest and lowest artificially obtained temperatures ?

Answer

You want more ?

Really ?

Quick : 1min

Question : How many orders of magnitude are there between the highest and lowest artificially obtained temperatures ?

Answer

- ▶ Hottest temperature : quark and gluon plasma at LHC :
 5×10^{12} K
- ▶ Lowest temperature : adiabatic demagnetization : 5×10^{-10} K
- ▶ Thus : 22 orders of magnitude.