Once Again about Fractional Charge

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Abstract: All reasons of arising of fractional charge have been presented. All conceptions leading to fractional charge have been used.

We have:

$$Q = Q_0 e^{i\left(\frac{2k\pi}{n} + \varphi\right)}$$

φ may be expressed by a complex number and then instead of Q_0 we have Q_0', which can have the fractional character.

The following formula appears:

$$\Box Q = Q$$

and

$$\frac{\partial Q}{\partial x} = \alpha Q$$

So

$$Q = Q_0 e^{\alpha x} + Q_0 e^{-\alpha x}$$

There is again a possibility of arising of fractional charge in the dependence on the space coordinates.

Another variant is:

$$q = lnQ = ln\, q_0 + i\frac{2k\pi}{n} + i\varphi + 2t\pi$$

We have again another possibility of fractional charge.

Next possibility:

$E = mc^2$ and $m = \alpha|Q|$

The Heisenberg uncertainty principle implicates:

$$\Delta E \cdot \Delta t \geq \hbar$$

So:

$$\Delta E \sim \Delta m \sim \Delta Q$$

And the fluctuations of charge are possible in the regions of reality where the Heisenberg uncertainty principle is valid.

At the end:

$$Q = lng$$

It is implicated by the first logarithm term of the equation of field and by the equiponderance field-source.