

Related Effects

Zygmunt Morawski

ABSTRACT: One has compared three effects characterized by an analogical step-like curve: the quantum Hall effect, multistage titration and the phenomenon of appearance of a few limit velocities. Next, one has made the conclusion about identical physical bases of these effects. Next, one has explained what the affinity consists in.

We have an analogical diagram for the multistage titration, for a few limit velocities and the quantum Hall effect.

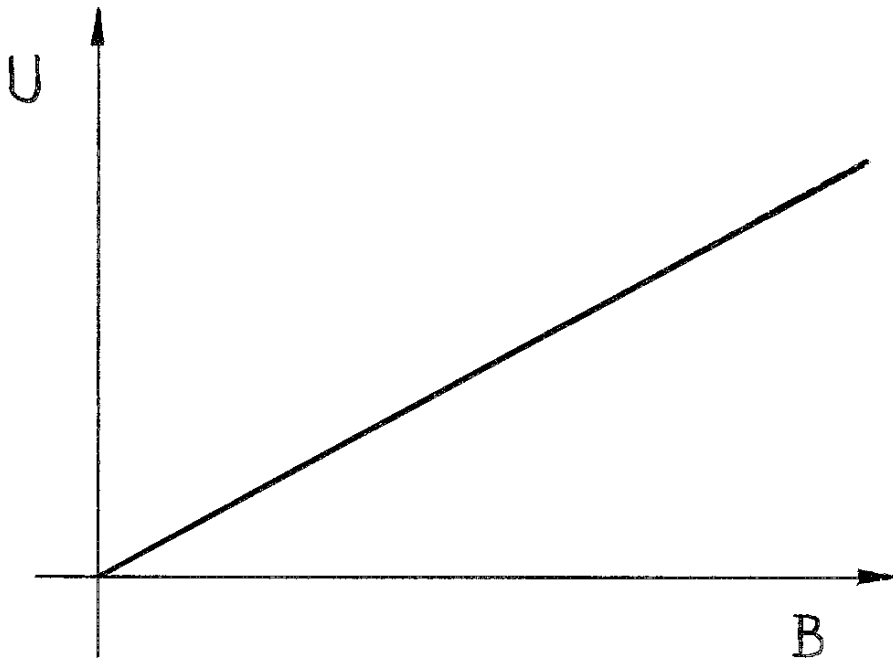


Figure 1

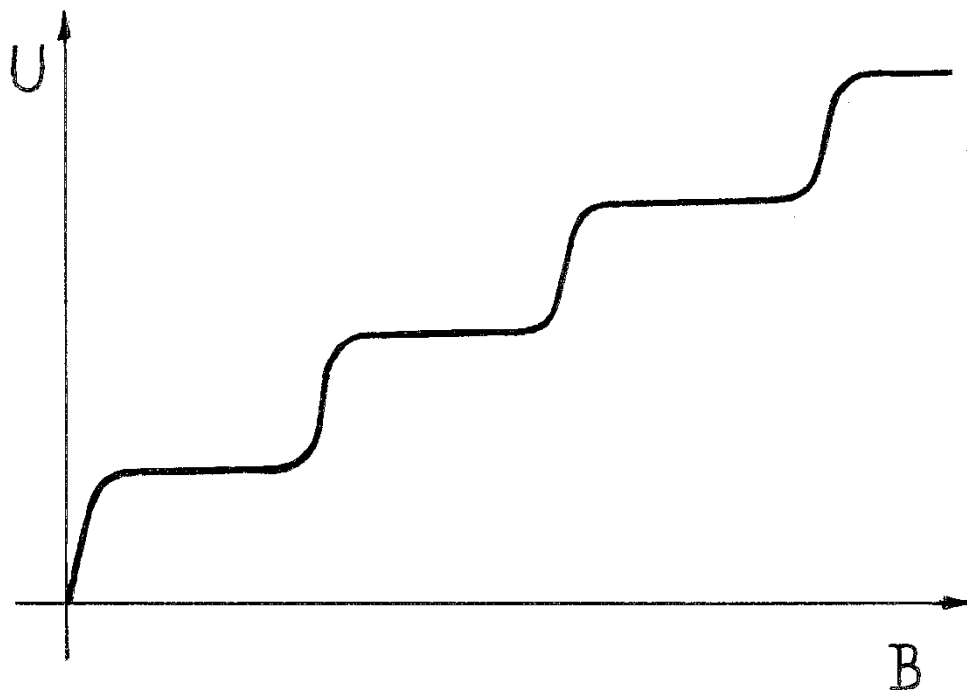


Figure 2

Figure 1 presents the dependence $U(B)$ for the classical Hall effect and figure 2 presents this dependence for the quantum Hall effect. In the case of titration we have the dependence of the concentration of a titrated factor upon the concentration of a titrating factor and in the case of limit velocities - the dependence $m(v)$.

The same equations have the same solutions and vice versa, analogical solutions are implicated by the identical physical bases.

We have a few limit velocities, then only one of them may correspond to the transition from real numbers to complex numbers. But the others conserve their limit character connected with the absorption and desorption of the machyon cloud during passing this velocity.

The quantum Hall effect takes place in the medium in whose unempty vacuum there are many limit velocities. So we have a few plateaus which are an analog of titration. Next the titration is connected with the surrounding by the machyon cloud [1].

Reference:

[1] Z. Morawski, "Implications of complex mass", this website