

SCIENTIFIC JOURNAL
OF THE RUSSIAN PHYSICAL SOCIETY

**JOURNAL
OF RUSSIAN PHYSICAL-CHEMICAL
SOCIETY**

JRPhChS

Volume 87, Issue 2

**Continued scientific journal JRPhChS
Russian Physical-Chemical Society, 1872–1930,
to renew their social, scientific
and publishing activities in Russia April 16, 1991**

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"New search for truths – only this is the only science"

Dm.I. Mendeleev

**A fundamentally new way to protect physical objects
(payment cards, passports and other media proprietary
information) FROM emulation imitation, copying**

Viktor Petrik (Saint-Petersburg, Russia)

This method of protection is based on a random, unique distribution in the amount of material of the protected natural object of a special substance.

Substance

Special material is so-called quantum dots. The recently discovered, they are known as colloidal solutions in which the physical particle size of 10 to 15 nm are able to absorb energy in a broad spectral range and emit in the visible range.

The author has developed an industrial process for the production of quantum dots in the form of a dry powder is chemically inert, resistant to acids and alkalis. Including these physical objects are resistant to high temperatures and can maintain its properties over an indefinitely long time.

Currently, the author created the industrial production of quantum dots that can provide for their needs on the scale of any state.

Production of protected natural objects

Quantum dots are introduced into the thermoplastic polymer material during production of the product. When the melt plastic mass quantum dots are distributed randomly in it, unique way.

Manufactured thus physical object is a carrier of a random, unique distribution of the quantum dots, the spatial coordinates of which can be measured and transmitted to a distant storage.

The cost of producing payment cards is much lower cost of payment card produced by standard techniques.

Authentication protected physical object

In order to authenticate a secure object, it is placed in a special electromagnetic field, whereby coordinate emitting quantum dots are recorded and compared with the stored access trimmed pattern of the

object. If you have a one-to-one correspondence between the points of two sets going authentication object.

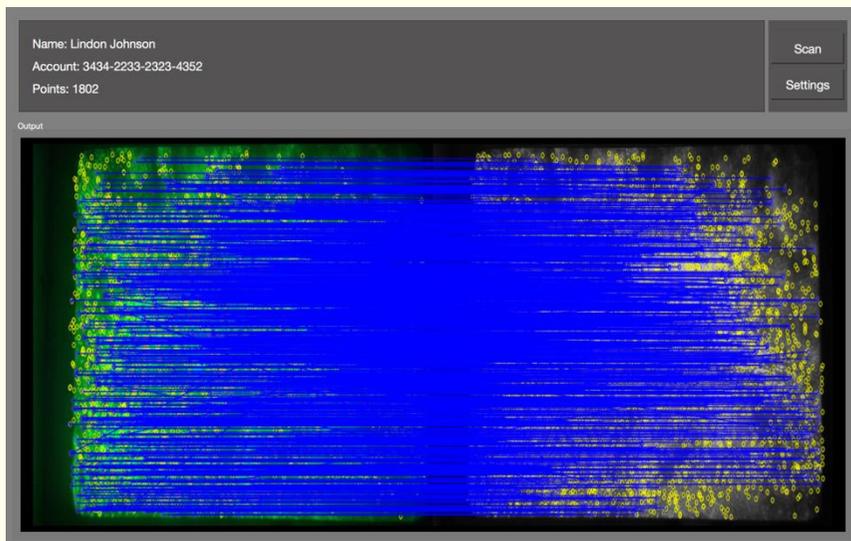


Photo 1

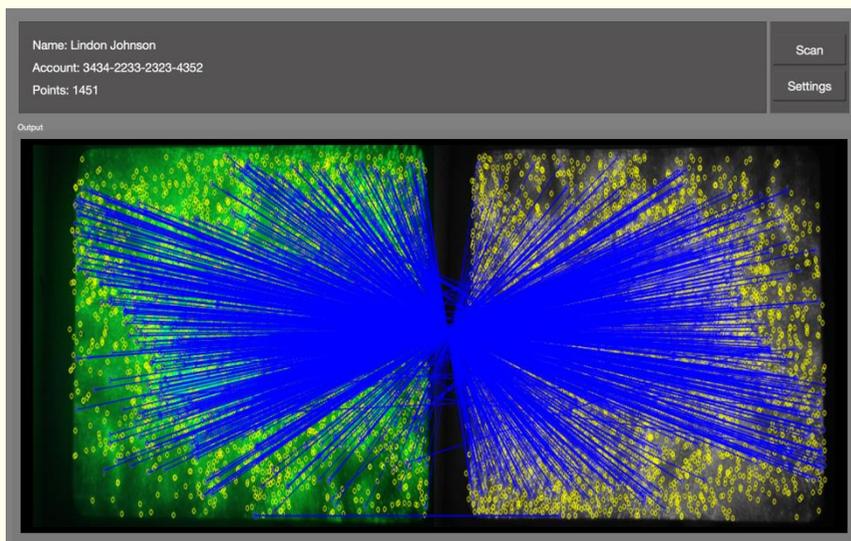


Photo 2 (Map Read in an inverted form)

Payment card

In the modern system of cash payments to the most vulnerable link is the payment card. This is due to the fact that the payment card information carriers are magnetic tape and electronic chips that may be compromised by using readily available electronic means.

Thus, according to the American corporation Symantec, every second in the world occurs in an average of 18 cyber crimes, and the 2012 victims of cyber criminals are more 31 million. People in Russia. Symantec users to assess the damage from cyber crime at \$ 110 billion, of which the Russians - about \$ 2 billion.

The proposed method of protecting payment card can be assigned to the category of absolute. According to the estimates produced, the coincidence of random distribution of quantum dots, which are in the amount of material possible payment card after the first quadrillion (a million billion) events.

It also shows that to date there are no technical solutions by means of which the possibility of purposeful repetition randomly distributed quantum dots in the volume of material payment card. The time that would be needed to accommodate the atoms of the material of the given coordinates using atomic force microscopy is compared with the lifetime of the universe.

Protection of passports

This technology is ideal for the protection of passports and other identity documents.

To this end, made a special tab in the polymer mass are randomly distributed quantum dots.

Join the pattern of a physical object is made at the time of delivery of the passport.

Apparatus for registering protection passport simple and consist of industrially produced elements.

Experts believe that quantum technology heralds a new era of protection certificates - data on all citizens of the world will be stored on a single server, it marks yet another round of globalization.

The priority of an invention set US Patent Office dated November 7, 2014 in 142 countries (members of the PCT).

According to American experts in the field of intellectual property, on such characteristics as the relevance and the way to solve this problem,

the present invention can be classified as the best invention of the century.



<http://youtu.be/AT9TgJ6padQ>

