Список літератури

1. Анатольев С. Непараметрическая регрессия. *Квантиль*. 2009. Т. 7. С. 37–52.
2. Канторович Г. Г. Лекции: Анализ временных рядов. *Экономический журнал ВШЭ*. 2002. Т. 6. №. 1. С. 85–116.
3. Зонтов Г. С. Разработка метода оценки информативности диагностических параметров авиационных ГТД в процессе технической эксплуатации. *XLVIII Научные чтения памяти К. Э. Циалковского* : тезисы докладов конференции. 2013. С. 160–161.
4. Зонтов Г. С. Информационный метод оптимизации параметров при диагностировании ГТД. *Научный вестник МГТУ ГА*. 2015. № 219. С. 71–76.

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INFORMATION TECHNOLOGY IN AVIATION

The role of information technology in aviation is really large. The modern world keeps going into different innovations, and aviation industry together with it. In this work I would like to describe importance of this sphere in aviation world.

Firstly I will talk about how information technology influences in education and preparing of aviation specialists: actually, in a lot of different flight academies, colleges, universities, schools etc, information technology is added as separate subject but if look more attentively, we can see that information technology almost everywhere. This one gradually substitutes usually books for education targets. Explanation is so easy, that is just more comfortable for cadets and teachers. Every can observe that now, mostly we have timetable in the internet, necessary news and information which we are able to get via our phone (or laptop, computer). Lately many cadets learn needed aircraft in electronic devices, because now information technologies allow to have all flight manuals, regulations, charts, tutorials and so more in the electronic view. Presently, for any cadet, who finished education and wrote all exams, much easier to get outcomes and seek job for further actions in the internet.

Great example of information technology which is used almost in each civil plane is Electronic Flight Bag. This “tablet” has all data and information required for flight. In that one, pilot can make all needed calculations, check and create variants of flight route and flight plans, enter various information. That is far convenient than work with out of number documentation papers. Weight of these EFB is less, than usual doc. papers (which can have even about 15-20 kilograms), approximately 1-2 kilograms. The first EFB was detected in 1990th years. EFB is divided into several classes:

Class 1 – devices, which are not connected with a plane. They are not construction part of the aircraft and because of this, they don't included into certificate type of the plane.

Class 2 – devices, which fasten in a cockpit, and are able for taking in any moment. The tablet of 2 class, get power from the plane and receive data from aircraft systems, kinda signal of location the plane, video from surveillance cameras. This type also is not included into construction of the aircraft.

Class 3 – devices, which are installed in the cockpit, they are connected to the plane systems. They are able to take and give different data into those systems and also they are included as part of construction.

Also EFB has 3 type of software:

Type A – static applications, which show on the display static information and pictures. Tablets of this type are not able to get or give information to plane systems. Applications type A, can be downloaded in a tablet of any class.

Type B – dynamic, interactive apps, which have ability to show all information in moving. They allow to process data and perform some computations. The apps can receive information from plane systems, but do not give info to aircraft systems. Applications type B, can be downloaded in a tablet of any class.

Type C – Application, which fully integrated in electronic equipment of the plane. They can get and supply some info from or to systems of the aircraft. Apps C type, can be installed only in a tablet of third class.

In our nowadays, practically every good airport, airline, however each aviation establishment has divers internet pages, social medias, virtual services, apps and so more. These things support and help to rise up and maintain good level for working. Now every, who want to fly somewhere, find some information, get needed consultation etc, just can do it all via internet and applications, being at home. Activity in social media and maintaining of official sites mean a lot for modern commercial, with every day internet-users become so more and more. Present world permits us to buy tickets in the internet, purchase additional desires… also too much attention we can give to boarding passes, which we can show in our phone, and don't need to print it. It decreased expenses. Travel agencies may send all tickets and important documents to passengers via the internet, instead not quite handy delivery. People are able to pass online check-in.

Likewise, if about flight crew and preparation before a flight. Mostly flight plans, perform by pilots in their own laptops, it makes less paper work. In briefing room, even there yet frequently all information and details of the flight, air crew verifies on individual devices.

All data and stories of different cases, incidents now save in various computers, in electronic capacities, that do all for more safety and simplicity, papers have feature as get lost, and they can be spoiled in accidentally circumstances.

Every good specialist who work in aviation sphere must know this subject, it is technical scope, and for higher results, safety, revenue and success of any aviation establishment.

Conclusion: As a result, we have really important and progressive section in aviation industry. Information technology help to up effective of working, and get

more profit, but in the same time it take away mostly interesting and creatively tasks, remaining only routine and mechanic job. Mainly we must know about correctly using for maximal efficient. This modern technologies have very good distinctly and monotone performing of work, great safety and fine supporter. But only qualified worker can take any decision in emergency situations and person must keep everything under control. However, in responsible professions, I guess we have no so safe program, which can fully handle the plane, perform all preparation procedures, control air traffic.

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ИЗМЕРЕНИЕ ОПТИЧЕСКОЙ ДАЛЬНОСТИ ТРАНСМИСОМЕТРАМИ

В авиации на первом месте стоит как безопасность, так и обеспечение безопасности авиационных перевозок непосредственно связанных с определением видимости как в простых, так и сложных погодных условиях. Видимость показывает на сколько воздух прозрачен в горизонтальном направлении и представляет собой максимальное расстояние, которое можно увидеть в атмосфере в заданное время. На основании анализа метеорологических данных чрезвычайно трудно предсказать видимость. Поэтому в авиации применяется экспериментальный метод ее измерения, который основывается на оптическом принципе. Целью данной работы является обсуждение данной системы определения видимости и особенности его практической реализации. Одна из основных характеристик, которая определяется, как наибольшее расстояние, с которого абсолютно черный объект размером более 20', проецирующийся на фон неба вблизи горизонта, перестает быть видимым [1]. В авиации для измерения метеорологической оптической дальности (метеорогической дальности видимости) используются трансмиссометры. Коэффициент пропускания света прозрачной средой определяется с помощью трансмиссометрами(от англ. Transmission). Это основная измеряемая величина. Ухудшение видимости приводит к снижению показателя пропускания и в большем поглощением света воздухом атмосферы, в котором распределены аэродисперсные включения (пыль, капли дождя и тому подобное). Оптическая дальность определена длиной пути в атмосфере, которая необходима для ослабления светового потока до значения 0,05 от исходной величины. Коэффициент пропускания, изменяющийся в пределах 0-100%, является основной физической величиной, которая определяется при использовании трансмиссометра, он показывает метеорологическую оптическую дальность видимости. В общем виде, пропускание света