Mapping of politically active groups on social networks of Russian regions (on the example of Karachay-Cherkessia Republic)

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Abstract The article shows, which segments constitute social and political activity in online social networks in the Karachay-Cherkessia Republic (KChR) and the width of their representation. The author's technique allows to collect data on politically active groups of KChR. The segments of social and political activity of the Republic on the social networks are shown. Eight main clusters of political activity in social networks of KChR were obtained by the author's method of grain clustering. Each cluster was analyzed by social network analysis methods. The most influential persons and social movements are shown, and features of their network activity were investigated.

Introduction

Description of the research problem

The space of social networks has many meaningful dimensions: social, political, economic. Each of them has its own particular representation in the country and regional aspect. This is dictated by the cultural, historical, informational features of the territory. Therefore, the study of social networks in a region, republic, or autonomous region of Russia is of particular research interest. In fact, the study of social networks in regions should begin with a primary mapping – understanding which set of groups represents a particular content area. The problem is that often even regional experts and managers hardly present the general picture of the activity of social networks.

Therefore, the mapping of social networks in the region is of interest from both the methodological (development of the algorithm) and informative points of view.

It was necessary to understand the segments of social and political activity on social networks in the KChR and the width of its representation. It was also significant to identify key groups and actors on social networks, which should be noted while working in the information space of the Republic.

The study shows that the oppositional activity on social networks is significantly related to the actions of representatives the Republic's elite. Social and political activity on social networks is diverse, it includes many currents and differs from other national regions of the Russian Federation.

Links to the groups, individuals and media on different social networks were provided from experts. On our part, we used methodology for mapping social networks at the federal and regional levels of the Russian Federation, tested in several projects (it is reflected in Part 2.2 of this article). The mapping of social networks was carried out using the method of grain clustering.

Data was collected from the online social networks: Facebook, Vkontakte, Instagram, Odnoklassniki and LiveJournal in April 2017.

Research problems of information gathering on social networks in the KChR:

The main problem was the lack of initial information from the representatives of the Republic about situation on the social media of the Republic. Therefore, we used additional method of initial information extension. Feature of this method is the minimum manual information collection. Having no more than 15 objects from all social networks on the start, we received a database with more than 5000 objects by our algorithm of grain clustering. As far as gathering of initial data was done from five social networks, we had an opportunity to compare the results between them. Different social networks have diverse nature of social and technical character:

- Clusters on KChR groups on Facebook are the most heterogeneous, they characterize the social processes in the information space. They also became the basis for the search for similar resources in other social networks - Vkontakte and Instagram.
- There is a big expansion of personal connections of oppositionists via friendship networks on Facebook. In other networks, personal accounts are not so tightly represented.
- The structure of clusters on social networks Vkontakte and Instagram is much more friable and blurred than in Facebook. Threshold strength of communication between groups is also lower than in Facebook.

- The peculiarity of Facebook is political network engagement. When typing keywords in the Facebook search box, a link is sent to oppositional groups (even not the largest). For example, for the word “KChR” there is a reference to the oppositional group “For the rights of the KChR” with the size of only 298 participants. The word “Karachay...” refers to the oppositional group “Blogosphere of Karachay-Cherkessia” (size: 5892 participants). The word “Cherke ...” refers to the oppositional group “Circassian Renaissance” (size: 6922 participants).
- Facebook provides a consolidation of protest and nationalist activity from all the republics of the Northern Caucasus and the federal opposition. There is an active presence of foreign groups, first of all, Turkish.

In this article we will consider the results of Facebook groups clustering.

Literature review of the regional network researches

Network approaches to regional political mapping on the Internet

Mapping of political resources on the Internet has a very long tradition, and a wide range of applications to different technological platforms, such as e-mail, chat rooms, blogs, social networks (Facebook, Twitter). With the development of technology, the types of relationships transformed, but the objects of mapping remained unchanged: either the political preferences of individual actors, or the political preferences of collective actors (groups, publics, etc.). The goals of mapping have also not changed over time: it was necessary to understand which political attitudes are present in the political segment of the Internet of a particular region (country), and how they are relatively positioned to each other. And this information is not self-valuable – with its help it is necessary to understand the social processes taking place in society, to predict the development of the political situation.

Two main approaches to network mapping in political networks are automatic and manual expert coding of objects.

The most famous paper on automatic coding is an article of Adamic & Glance [Adamic, Glance, 2005] on automatic mapping of the American blogosphere in the elections of 2004 year. These scholars visualized relationships between social and political blogs and have obtained different clusters. With a large amount of work spent on the collection of information, meaningful conclusions are likely to occur. There were discovered two main clusters: one supported the democratic party, the other - the republican party. There was a small number of links and intermediary blogs between them.

An interesting paper in which the author utilizes an expert approach is “Public Discourse in the Russian Blogosphere” by Etling et al. [Etling et al., 2010]. The mapping of the Runet here is carried out in order to understand the processes of political mobilization in Russia, under the leadership of Berkman Klein Center for Internet & Society. In this case, a lot of work has also been done on collecting empirical information and expert coding of blogs. The picture of political groups is more complex and variegated than in the study of Adamic & Glance. However, when only an expert approach is used, the resulting multidimensional space is difficult to interpret from a structural point of view. The same principles and methodological techniques were used elsewhere by Kelly & Etling [Kelly, Etling, 2008].

It could be argued that the best approach for conducting mapping is a combination of automatic data collection and expert coding for understanding the social mechanisms which lie under the political processes taking place on the Internet.

The technical issue of collecting information is constantly discussed in this kind of research collecting and visualizing the connections between objects in the virtual space. The work of Lin et al. [Lin et al., 2007] is devoted to this question.

The question of the collection algorithms is still debated, as in the study of Borgatti & Cross [Borgatti, Cross, 2013].

An approach that combines search algorithms and clustering methods is the most promising for mapping social networks and is used in our author's algorithm in the study of KChR.

The issue of measuring communication strength in virtual social networks is also relevant and was studied by Petróczi [Petróczi et al., 2007].

In addition to the network approach, the study of political processes in social networks addresses another significant aspect of the study. It should be understood that the processes that group actors in social networks for political preferences do not always occur for natural reasons. Over time, manipulative processes of information dissemination and social projection are becoming increasingly active.

The works of Rusch [Rusch, 1999] and Atkins & Huang [Atkins B., Huang] are devoted to social engineering of Internet fraud. Although they consider not political processes, the manipulation techniques are the same: authority, tradition, attraction, urgency, fear / threat, liking and similarity, reciprocation, social proof, etc. Rusch [Rusch, 1999] emphasizes the psychological aspects of the manipulation via Internet fraud and describes the used principles of social psychology. Separately, he describes the principles of "reverse-engineering", aimed at the philistine psychology and the typical situational reaction.

Regional Policy Network Studies

In the Russian-language literature, the mapping of the political space in the regions is primarily of practical importance Sharkov discusses the relationship between network (virtual) and real identities, as well as the transition to the phenomenon of the

"mass person". The theoretical foundations of social design processes in the virtual space are considered. The peculiarity of the perception of political processes is their immersion in the communicative context [Sharkov, 2016].

The authors of other article conducted regional studies in many regions of Russia. In the work of Gradoselskaya [Gradoselskaya, 2017], socio-political processes were studied in eight regions of Russia, differing in the level of innovative development: from Yakutia to the Moscow region. In the other article of these authors [Gradoselskaya, et al., 2017] the methodology is written in detail.

In general, in Russia, the Institute of Sociology of the Russian Academy of Sciences is engaged in detailed research of the regions. The results are shown in a number of publications [Power and society in Russian regions, 2015], Kozlov [Kozlov, 2008].

A study conducted by Kolosov & Sebentscov [Kolosov, Sebentsov, 2014] describes the geo-political discourse about the North Caucasus in Russia. They distinguish nationalistic, oppositional, Islamist discourses, which partially coincides with the results of our study presented in this article.

The most obvious consequences of social design in the virtual space are manifested in mass public actions, as shown by Kelasiev [Kelasiev et al., 2007]. They consider the mechanisms of influence on target audiences, their mobilization, as well as the organization of a dialogue (or confrontation) of the government and public activists.

A brief description of the mapping of social networks using grain clustering algorithm

The grain clustering method was proposed by G. Gradoselskaya in 2014 when solving the research problem of structuring politically active groups of Russia. The standard mathematical and linguistic approaches that existed at that time were of no practical use and / or proved to be too costly in terms of time and finances. At the moment an article is being prepared with a detailed description of the methodology.

From that time to date, more than 20 scientific and commercial studies have been conducted on network mapping at different levels: federal, regional, city and district. These were studies of political activity, social, nationalist, criminal, professional networks, etc. In all cases surprising results were obtained.

The study on the KChR is given as an example in this article, the automatic method of collecting information gave very interesting, non-trivial structure – the ring, where clusters are grouped according to the principle of "strung beads" (see Figure 2). This is the fundamental difference between the mapping using the grain clustering method and the research of social networks, where groups were selected

manually. In the case of manual collection, usually one cluster is obtained, with a pronounced core, loosely coupled peripherals and no complex structures.

1. Briefly, the grain clustering algorithm can be described as a sequence of several steps:
2. The selection of a small number of grain groups. Experts select a small number (from 5 to 10) of the groups that most closely correspond to the research topic – political, financial, criminal groups, etc. In this case, there were regional groups of Karachay-Cherkessia. As noted above, the number of grain groups was extremely small, since the experts had no idea what was happening in his region.
3. Between grain groups, the density of bonds is recalculated. This is considered a zero-cluster increment cycle.
4. All groups of all users of the grain groups are gathered and ranked by decrease in the frequency of common users. Thus, the connection between cluster objects (groups) will be the number of joint users between groups.
5. Next, the density change is recalculated when each new group is added to the cluster. As soon as the cluster density begins to decline rapidly, the addition of new groups ceases, and the first cycle of cluster accumulation is considered to be completed.
6. After that, we go back to step 2, and start the next increment cycle. Based on our experience, in order to map most of the groups in the region, there are only 2-3 cycles of increment are needed.

In addition to controlling the density of the cluster, when implementing the cycles of the algorithm, you can control the threshold values of the links, add a vector of correspondence of new groups already included in the cluster in previous cycles.

The scheme of actions of the grain clustering algorithm is shown below in Figure 1.

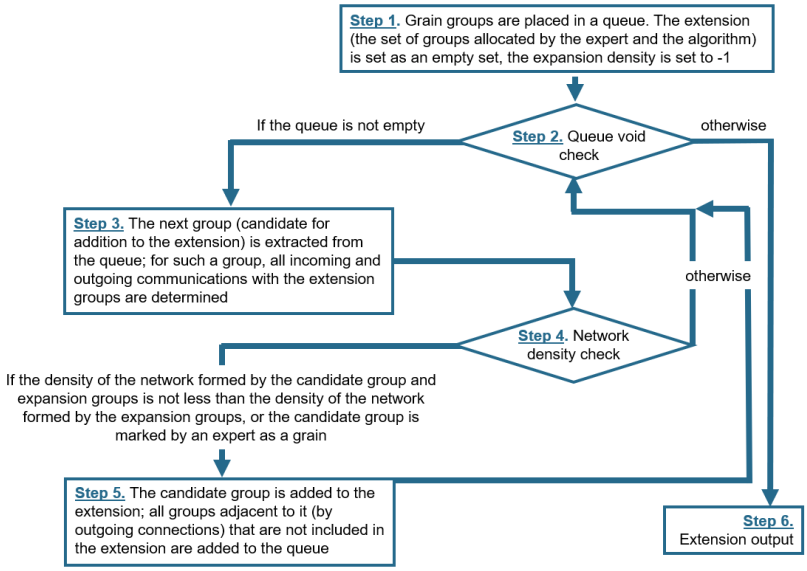

Fig. 1. Grain clustering algorithm is a method with non-decreasing density.

After all groups have been selected and visualized and structural clusters have been found, the automatic collection phase is considered complete. The next stage is expert coding, when all collected groups are reviewed by experts and categorized in accordance with the goals and objectives of the study. Further, a comprehensive analysis is carried out and conclusions and recommendations are prepared.

Structuring clusters of politically active groups of KChR on Facebook

General clustering of groups that show political activity in the information space of the KChR and neighboring Caucasian regions

Hundreds of thousands of users and groups are active in social networks. Method of mapping network activity helps to understand what is happening. On the basis of joint actions of users (participation in communities, adding friends, commenting) links are built between groups in the network. The greater the number of connections, the higher the likelihood that different groups are united into a common

network and coordinated from one center. The user who is interested in politics will be included in several groups, and the set of groups for each actor may be different. Combining personal activities, we get a picture of the overall structure of relations between political groups.

To identify the structure, 5–10 large "model" groups are sufficient, and through the connections of participants with other groups, the entire cluster is identified (opposition, pro-government, regional or national-oriented, etc.).

Next, the experts determine the boundaries of the cluster (to reduce the density of bonds); they distinguish specific types of groups (opposition, pro-government, nationalist, interests, advertising, services, etc.), key actors (professionals who create groups and attract new members into them). Then an analysis of the social replenishment mechanisms of clusters and the links between them is carried out.

According to the primary structural mapping on Facebook, eight clusters were identified. General characteristics of clusters are in the Table 1.

Table 1. Main structural clusters in the social network Facebook on KCHR.

No.	Cluster name	Description of the cluster
1	Abkhazian	A secular cluster, partly in the national language. Devoted to the problems of Abkhazia and life conditions of Abkhazians in other republics of the Caucasus.
2	Adyghe	Most of it is nationalistic, half of it is in the national language. It also contains socio-political groups and social movements. The main idea is "the unification of divided Nations".
3	Kabardino-Balkar	Mostly nationalistic, partly in the national language. It also contains socio-political groups and social movements.
4	Caucasian, Islamic	There are groups of Caucasian republics: Chechnya, Ingushetia, Dagestan. Main content – integration on the basis of religion. Some groups are purely Islamic, promoting lifestyle ("Islamic family", "Islamic values", "Islamic medicine", "Oppression of Muslims", etc.). Partly in national languages.
5	Karachay-Cherkesia	The cluster includes socio-political groups dedicated to the KChR, media, and groups in support of regional oligarch T. (as well as public movements such as "RCPC", "Elbrusoid", etc.). The cluster is associated with both the Caucasus-Islamic cluster, the oppositional cluster, and the Stavropol cluster.
6	Federal opposition	Federal groups have met before in mapping oppositional groups at the Federal or Moscow level. Coordinate the activity of the opposition throughout the country (including the KChR).
7	Stavropol	The cluster is dedicated to the neighboring region – Stavropol. Mostly informational.
8	Pan-Turkism in the Caucasus	The cluster is based on the activity of Turkish information resources. Partly in Turkish, partly in Russian, partly in the national languages of the Republic. They promote the idea of uniting all the Turks and territorial claims to the Russian territories (Southern Volga region, Siberia, the Caucasus). About a third of the cluster's groups are aimed to work in the KChR (contains the name of the

Republic or its people in the title). A third of groups from Turkey are on the national language of KChR (cherkess language).

The Figure 2 shows the results of visualizing the links between the 370 Facebook groups. The threshold is 150 mutual participants in groups.

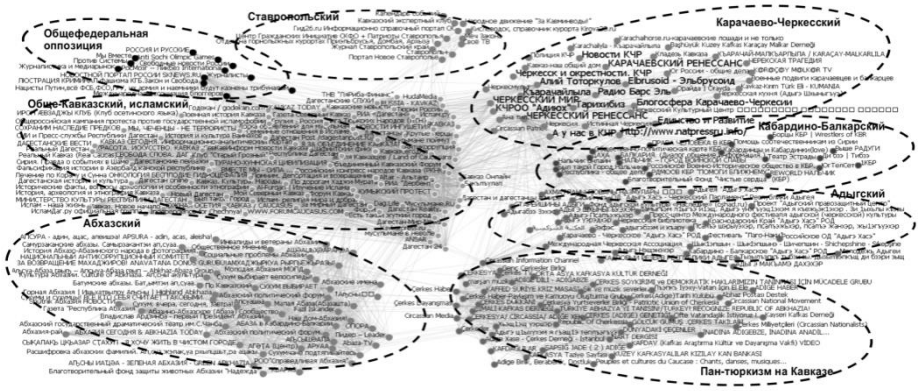

Fig. 2. Mapping the KChR groups, threshold – 150+ mutual members

We obtained clearly defined eight clusters, each of which is easily interpreted due to the homogeneous content of their groups. They can be described as follows: Abkhazian, Adyghe, Kabardino-Balkarian, Caucasian (Islamic), Karachay-Cherkess, Federal Opposition, Stavropol, Pan-Turkism in the Caucasus. Pan-Turkism and Caucasian clusters are the largest and influence all others.

The cluster “Pan-Turkism” is based on the activity of Turkish information resources. Partly in Turkish, partly in Russian, partly in the national languages of the Republic. Promote the idea of uniting all the Turks and territorial claims to the Russian territories (Southersn Volga, Siberia, the Caucasus). About a third of the groups in this cluster are directed to work in the KChR (it contains the name of the Republic or its constituent peoples in the name).

Lists of publications were obtained for all clusters and their content was analyzed. The texts of the publications of the Pan-Turkism cluster are the most interesting in content, since they represent a number of basic queries in relation to the Russian Federation. But they are voiced through groups dedicated to the KChR.

It is possible to allocate the main subjects from the Turkish groups working especially for KChR:

- Territorial claims: almost all territory of modern Russia is considered as gifts of the Tatar khans;
- Linguistic claims: The North Caucasian languages are considered as basic, primogenitors of all modern European and Indian languages;

- Genetic claims: investigating DNA, it has been established (unclear by whom - scientific visibility of these statements is more important) that Caucasians are primogenitors of all Europeans.

In the cluster “Caucasian (Islamic)” there are groups of Caucasian republics: Chechnya, Ingushetia, Dagestan. According to the content they are unified by one religion. Some groups are purely Islamic, propaganda of the way of life (“Islamic family”, “Islamic values”, “Islamic medicine”, “oppression of Muslims”, etc.). Partially in national languages. Quite a lot of opposition groups, socio-political movements, pan-Turkic groups, Internet media.

Apart from automatic clustering, expert coding was carried out for all 370 groups, and informative typologies in each cluster were identified.

Thus, in the Abkhazian cluster a significant part of groups in the national language was identified. In the Adyghe cluster, in addition to groups in the national language, a subgroup of resources dedicated to the nationalist movement “Adyge-Khase” was identified. In the “Caucasian, Islamic” cluster, two subgroups dedicated to the Caucasian republics of Chechnya and Dagestan were identified.

In addition to the groups characterizing the content of each cluster, the types of groups in each of the 8 clusters were identified. These are socio-political and oppositional groups and sites representing the media.

Cluster of politically active groups of KChR

The Figure 3 shows the groups in the cluster directly devoted to the KChR.

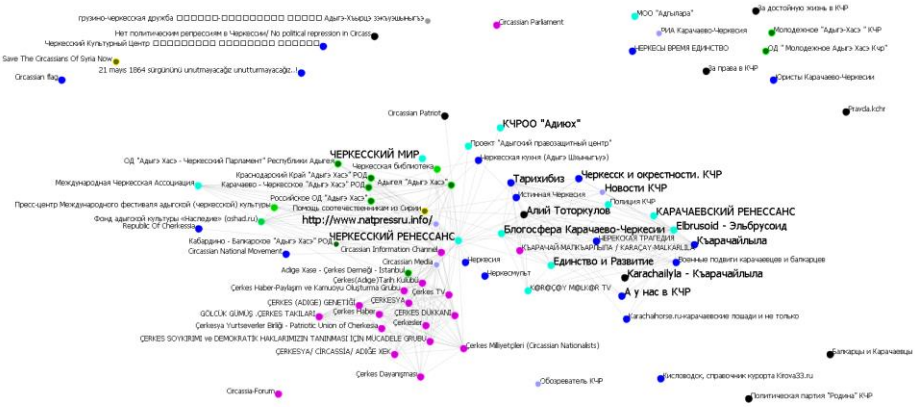

Fig. 3. Mapping the KCHRs groups on Facebook.

Groups dedicated to KChR are present in all clusters. If we combine all these groups in a separate scheme, we can distinguish 4 main types that dominate in the KChR:

- Quite a large number of groups implementing the *pan-Turkist policy* of Turkey ("Circassian Parliament", "ÇERKES SOYKIRIMI WE DEMOKRATİK HAKLARIMIZIN TANINMASI İÇİN MÜCADELE GRUBU", etc.).
- *Socio-political* enter the zone of influence of the opposition ("Circassian Renaissance", "Elbrusoid", etc.).
- *Opposition* groups are included in the zone of influence of the opposition ("Karachayl", "Cercassian Patriot", etc.).
- *Republican* groups ("Cherkessk and surroundings", "And in our KCHR" etc.).

The potential impact of the opposition on the relevant segment of the associated KChR clusters in Facebook was assessed separately: the total number of unique accounts in this cluster is 36215.

Table 2 below shows the top 25 most central groups in the cluster of active KChR groups. Groups are ranked by decrease of degree centrality. The most central are the socio-political and Turkish groups.

Groups that are sponsored by the republican oligarch and one of the main heavyweights T. occupy the top lines. His personal group takes the 4th place. Top 3 is occupied by social movements supported by him ("Tarihibibiz", "Kyarachilila", "Elbrusoid"). The remaining socio-political movements supported by T. are also present in the table ("Unity and Development", "Adyghe Khase").

From the media, we can highlight the most influential groups in the information field: "Circassian Media" and "http://www.natpressru.info/".

Table 2. Main structural clusters in the social network Facebook on KChR.

No.	Group name	Degree centrality	Group type
1	Tarihibibiz	1.000	Socio-political
2	Kyarachilila	0.919	Oppositional
3	Elbrusoid	0.915	Socio-political
4	Aliy Totorkulov	0.915	Region oligarch's
5	Blogosphere of Karachay-Cherkesia	0.859	Socio-political
6	CIRCASSIAN RENAISSANCE	0.641	Socio-political
7	Çerkes TV	0.638	Turkish
8	Circassian Information Channel	0.605	Media
9	ÇERKESYA	0.605	Turkish
10	Military exploits of Karachai and Balkar	0.553	Republican
11	Çerkes(Adıge)Tarih Kulübü	0.531	Turkish
12	Çerkes Haber-Paylaşım ve Kamuoyu Oluşturma Grubu	0.483	Turkish
13	GÖLCÜK GÜMÜŞ .ÇERKES TAKILARI	0.455	Turkish

14	Çerkes Milliyetçileri (Circassian Nationalists)	0.451	Turkish
15	ÇERKES (ADIGE) GENETİĞİ	0.380	Turkish
16	Adygea “Adyghe Khase”	0.376	Socio-political movement “Adyghe Khase”
17	Çerkesler	0.373	Turkish
18	Helping compatriots from Syria	0.369	Helping compatriots from Syria
19	Unity and Development	0.365	Socio-political
20	Circassian Media	0.351	Media
21	Fund of the Adyghe culture “Heritage” (oshad.ru)	0.341	Adyghe
22	Çerkes Haber	0.340	Turkish
23	ÇERKES SOYKIRIMI ve DEMOKRATİK HAKLARI	0.332	Turkish
24	http://www.natpressru.info/	0.328	Media
25	Kabardino-Balkarian “Adyghe Khase” RSM	0.322	Socio-political movement “Adyghe Khase”

Conclusion

The mapping of social networks of KChR shows a large number and high degree of branching of opposing personal accounts and groups for which the anti-governmental (republican and federal) content is disseminated, as well as nationalist.

It is necessary to emphasize foreign sources of opposition and nationalist content, mainly from Western and Turkish information resources. The quality of content is very professional, expensive, immersed in the realities of the Republic – very complete. They are also used to model future social events (marking special dates, organizing marches, supporting social movements, etc.).

In all networks there are nationalist, islamic, opposition groups in Russian, English, Turkish, Arabic, national languages of the Republic. Some of these resources were created specifically to work for the KChR audience (the group names contain either the name of the Republic or the name of the people living on its territory).

If we consider interconnection (compare the representation of accounts and groups between different networks), we can note their different roles in the coordination of communication and information processes in the KChR:

- Facebook: consolidation and coordination of the main opposition and nationalist resources within the Republic, federal and foreign sources. The structure is more

pronounced, clear clusters are distinguished, related to their substantive specialization;

- Vkontakte: district groups, groups by interest, youth groups. The structure is more friable, there are few clusters;
- Instagram: a source of video materials, scattered into personal accounts and tightly connected structures of information resources, media;
- Odnoklassniki: groups of household and leisure purposes, have a long history and are supported by a large social inertia;
- LiveJournal: points of publication negative materials against the leadership of the Republic.

From the point of view of the power of influence on the population of the Republic, Facebook and Vkontakte networks are almost equal, although they are aimed at different purposes. The network of Facebook is focused on international opposition and nationalist contacts, through this network, the main content is produced, prepared on international resources (including off-grid, for example, "Cherkessia.net"). Foreign languages of communication are also actively used: English, Turkish, sometimes Arabic. The Vkontakte network concentrates on local resources, both have public and political content, and neutral, in relation to the region and human settlements.

Odnoklassniki represent groups mostly for domestic and leisure purposes, but they also contain political materials placed by special accounts. To reveal such materials on the statistical level is rather difficult, it is necessary to periodically monitor the information resources collected in this study.

Other networks are more entertaining and communicative. The links where are more scattered and quickly break up into personal accounts (as, for example, on Instagram). In LiveJournal, many accounts are either obsolete (inactive since 2016 year), or they are used as points of throwing dirt on the leadership of the republic (to then disperse information via Facebook, Vkontakte, Twitter) and they can be regarded as bots.

The LiveJournal is not currently an active network, the vast majority of KChR accounts have moved from LiveJournal to other social networks. In fact, Instagram now took over the functions of LiveJournal for posting current observations of the user over himself and the world around him, in addition, he significantly lowers the threshold level, since the placement of materials in the Instagram does not require the preparation of texts, just a smartphone.

The opposition's personal networks are a single and tightly connected, through which information of nationalist, anti-state content is quickly disseminated. Many of them are connected with information technologies, possess methods of dissemination of information and goods on the Internet, which increases their potential danger in information confrontation.

Protest resources in almost all networks occupy a central position and accumulate around themselves resources in basically two types: the media and social

movements. The potential impact that these resources can have on the information space of the Republic can be assessed as very significant.

Special attention should be paid to public movements that openly support the opposition: “Elbrusoid”, “The Russian Congress of the Peoples of the Caucasus” (RCPC), “Adyghe Khase” (with branches in the Karachay-Cherkessia Republic and neighboring republics), “Tarkhibiz”, “Karachay Renaissance”, “Unity and Development”, etc. Potentially, these movements can be used to conduct social actions and/or protest actions.

There are quite a few groups (relatively small in size) that are associated with the world of cinema, directing, showing films, hiring actors for productions, etc., in the Vkontakte network of the KChR. Conclusions on this phenomenon: First, the cultural elite of the Republic is actively involved in the process of producing nationalist, anti-government content. Secondly, production clips of nationalistic, anti-government content are produced. Thirdly, actors are needed to conduct actions, implement manipulative methods of crowd control, and so on.

In all networks there is a phenomenon of “information mining” – preparation for the future information campaign of 2017. Bots are created, accounts are pumped through, accounts are activated, which until now have been abandoned.

Acknowledgments. The study has been funded by the Russian Academic Excellence Project “5-100”.

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