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## On the structure of Fennoscandian AR-PT High Conductive Suture Zones on the Example of Ladoga-Bothnian Anomaly.

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Ladoga-Bothnian Anomaly of high conductivity (LBA in Fig. 1) belongs to a Color Belt of Finland. Further

to the north-west from Ladoga lake the LBA, with some interruptions, crosses almost the entire Fennoscandian Shield and crosses the Gulf of Bothnia (Figure 1). It is well known by commercial deposits of copper, nickel and poly-metallic ores. On the Russian territory LBA contains of deposits of tin and pyrite. All this determines a great interest in the study of its deep structure. The first evidences of the high conductivity around LBA has been detected by N.V. Lazareva (1967) on the northern Ladoga lakeside with the use of magnetotelluric soundings (MTS). She has found here unusually low values of apparent resistivity and irregular behavior of MTS curves. Later the Ladoga anomaly conductive body has been found by I.I. Rokityansky (1979) with the use of

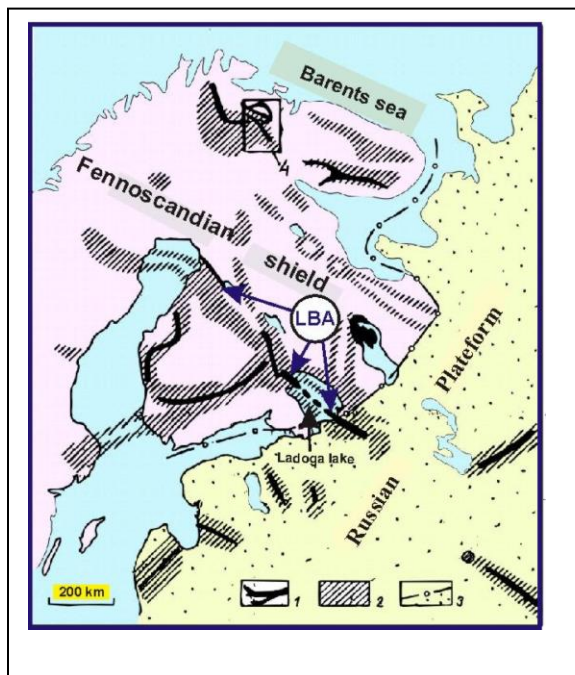


Figure 1. Fennoscandian conductive zones.

*LBA- Ladoga-Bothnian anomaly.*

*1 – axis of high conductivity (1000 Sm and*

magnetometer array method. As a result of this study it was made conclusion on the existence of electrical conductivity anomaly at a depth of about 10 km. The most extensive study of LBA has been performed later by a group of AA Kovtun [1989] with the use of MTS and audio-MTS methods. According to results of numerical modeling a three centers of conductivity have been found within the LBA at the depths of about 5-10 km. The integer longitudinal conductivity of LAB reaches up to 2000 Sm.

The paper presents the overview of the history of LBA geoelectrical studies: from its discovery in late 70-th of XX century up to resent detailed 2D imaging with a help of the modern complex of synchronous MT-MV-AMT soundings. Regional section across Karelian Isthmus is discussed in the frames of novel geotectonic model of the South-Eastern part of the Fennoscandian (Baltic) Shield.

\* Kovtun A.A. died at 15 January 2016.

