

ANNEX

Figure 1. Brain mapping of spectrum power of EEG δ -range (0.5~~x4~~ Hz) in persons who survived the acute radiation sickness (above) and in practically healthy persons (below). EEG δ -range spectrum power elevation with lateralisation to the left frontal-parietal zone is marked in acute radiation sickness remote period.

Figure 2. Brain mapping of spectrum power of EEG θ -range (4~~x7~~ Hz) in persons who survived the acute radiation sickness (above) and in practically healthy persons (below). EEG θ -range spectrum power diffuse depression under its lateralisation to the left temporal zone is observed in acute radiation sickness remote period.

Figure 3. Brain mapping of spectrum power of EEG α -range (7~~x12~~ Hz) in persons who survived the acute radiation sickness (above) and in practically healthy persons (below). EEG α -range spectrum power diffuse depression is observed in acute radiation sickness remote period especially in the left hemisphere.

Figure 4. Brain mapping of spectrum power of EEG β -range (12~~x32~~ Hz) in persons who survived the acute radiation sickness (above) and in practically healthy persons (below). EEG β -range spectrum power diffuse elevation is observed in acute radiation sickness remote period.

Figure 5. Brain mapping of spectrum power of EEG δ -range (0.5~~x4~~ Hz) in liquidators for the long time working in exclusion zone with radiation exposure doses exceeding 0.3 Sv (above) and liquidators for the long time working in exclusion zone with radiation exposure doses less than 0.3 Sv (below). EEG δ -power elevation is marked under chronic exposure to radiation (3–5 years and more). At that tendency of EEG δ -power lateralisation towards left frontal-temporal zone is surveyed in liquidators exposed to the doses exceeding 0.3 Sv (0.82 ± 0.09 Sv), whereas in liquidators exposed to the doses under 0.3 Sv (0.12 ± 0.02 Sv) — respectively to the right one.

Figure 6. Brain mapping of spectrum power of EEG θ -range (4~~x7~~ Hz) in liquidators for the long time working in exclusion zone with radiation exposure doses exceeding 0.3 Sv (above) and liquidators for the long time working in exclusion zone with radiation exposure doses less than 0.3 Sv (below). EEG θ - power diffuse lowering is marked under chronic exposure to radiation (3–5 years and more) compared to control. Higher values of EEG θ -power are surveyed in liquidators exposed to the doses exceeding 0.3 Sv (0.82 ± 0.09 Sv), compared to those exposed to the doses under 0.3 Sv (0.12 ± 0.02 Sv).

Figure 7. Brain mapping of spectrum power of EEG α -range (7~~x12~~ Hz) in liquidators for the long time working in exclusion zone with radiation exposure doses exceeding 0.3 Sv (above) and liquidators for the long time working in exclusion zone with radiation exposure doses less than 0.3 Sv (below). EEG α - power diffuse lowering is marked under chronic exposure to radiation (3–5 years and more) compared to control. Named tendency is expressed to the higher extent in liquidators exposed to the doses exceeding 0.3 Sv (0.82 ± 0.09 Sv), than among those exposed to the doses under 0.3 Sv (0.12 ± 0.02 Sv).

Figure 8. Brain mapping of spectrum power of EEG β -range (12~~x32~~ Hz) in liquidators for the long time working in exclusion zone with radiation exposure doses exceeding 0.3 Sv (above) and liquidators for the long time working in exclusion zone with radiation exposure doses less than 0.3 Sv (below). EEG β -power diffuse elevation is marked under chronic exposure to radiation (3–5 years and more) compared to control, especially under exposure to the doses exceeding 0.3 Sv (0.82 ± 0.09 Sv).

Figure 9. Brain mapping of spectrum power of EEG δ -range (0.5~~x4~~ Hz) in children exposed to ionising radiation in prenatal period (above) and in practically healthy kids (below). EEG δ -power elevation is found in the age 9–10 years old among children exposed to ionising radiation in prenatal period.

Figure 10. Brain mapping of spectrum power of EEG θ -range (4~~x7~~ Hz) in children exposed to ionising radiation in prenatal period (above) and in practically healthy kids (below). EEG θ -power diffuse depression is found in the age 9–10 years old among children exposed to ionising radiation in prenatal period.

Figure 11. Brain mapping of spectrum power of EEG α -range (7~~x12~~ Hz) in children exposed to ionising radiation in prenatal period (above) and in practically healthy kids (below). EEG α -range spectrum power depression is found in the age 9–10 years old among children exposed to ionising radiation in prenatal period.

Figure 12. Brain mapping of spectrum power of EEG β -range (12~~x32~~ Hz) in children exposed to ionising radiation in prenatal period (above) and in practically healthy kids (below). EEG β -power diffuse elevation,

especially in the left frontal-temporal zone is found in the age 9–10 years old among children exposed to ionising radiation in prenatal period.

Figure 13. Brain mapping of linear correlation coefficients between EEG δ -range (0.5–4 Hz) spectrum power elevation and effective radiation dose (ED) value (above), EEG α -range (7–12 Hz) spectrum power depression and value of ED of radiation (below) among the self-settlers of Chernobyl exclusion zone.

Along with ED elevation the EEG δ -range spectrum power rise and EEG α -range spectrum power depression especially in the left parietal-occipital zone are observed under chronic radiation impact in persons mainly of elderly age.

Figure 14. Brain mapping of linear correlation coefficients between EEG α -range (7–12 Hz) frequency elevation and effective radiation dose (ED) value in self-settlers of Chernobyl exclusion zone. Along with ED elevation the EEG α -range frequency increase is observed mainly in the left occipital zone under chronic radiation impact among persons mainly of elderly age.

Figure 15. Brain mapping of linear correlation coefficients between EEG α -range (7–12 Hz) frequency decrease and age values in Chernobyl exclusion zone self-settlers (above), in control (below). EEG α -range frequency decrease along with age occurs mainly not in the left (dominating) hemisphere as in norm, but in the right one under chronic radiation exposure in persons mainly of elderly age.

Figure 16. Brain mapping of linear correlation coefficients between EEG θ -range (4–7 Hz) spectrum power depression and age in the self-settlers of Chernobyl exclusion zone and the same range spectrum power elevation and age in control (below). EEG θ -range spectrum power decrease along with age is found under chronic radiation impact in persons of mainly elderly age on the contrary to the normally ageing persons where diametrically opposite tendency is present (EEG θ -range spectrum power increase).