The Influence of the Spin Exchange and the Triple Nitro-
gen Atoms Recombination on the Magnetic Resonance Signal of Ce-
sium Atoms in the N$_2$–Ar Afterglow VICTOR KARTOSHKIN, SERGEY
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sian Academy of Sciences — The investigation of spin-exchange collisions between
optically oriented cesium atoms in the ground $^2$S$_{1/2}$ state and nitrogen atoms in the
ground $^4$S$_{3/2}$ state reveals an anomalous behavior of the magnetic resonance signal of
cesium atoms in the afterglow in an N$_2$-Ar mixture. It is found that such a behavior
of the magnetic resonance signal is explained by a slow change in the concentration
of nitrogen atoms (due to the recombination of these atoms in the triple collisions)
in the absorption cell, which affects the magnetic resonance of cesium atoms via
efficient spin exchange.