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## New Limits on Axion-Photon Coupling Constant for Solar Axions.

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A search for resonant excitation of the first nuclear level of  $^{83}$ Kr (9.4 keV) by axions formed in the Sun due to the Primakov effect have been carried out. To register the  $\gamma$  and X-ray quanta, conversion and Auger electrons arising from the discharge of the nuclear level, we used a gas proportional counter located in a low-background setup in the Baksan underground laboratory of INR RAS. As a result, a new constraint on the coupling constant of the axion with the photon and the mass of the axion  $|g_{A\gamma} \times m_A| \leq 6.3 \times 10^{-17}$ , which in the KSVZ hadronic axion model corresponds to a new limit on the mass of the axion  $m_A \leq 12.7$  eV for 95  $\$  C.l.

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