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ASHIPH Cherenkov counters in the KEDR experiment

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The particle identification system ASHIPH (Aerogel, SHifter, PHotomultiplier) has been working in the KEDR experiment at VEPP-4M e^+e^- -collider (Budker INP, Novosibirsk) since 2014. The system consists of 160 aerogel cherenkov counters arranged in two layers and covers 96% of the solid angle. The volume of aerogel is 1000 liters, its refractive index is 1.05. For the photon detection we use the Micro Channel Plate (MCP) PMTs. π/K separation in the momentum range from 0.95 to 1.45 GeV/ c is better than 4σ . The status of the system is presented. The long-term stability of aerogel counters in the KEDR experiment is shown. A review of the use of ASHIPH system for perform physical analysis in the KEDR experiment is presented, such as measurements of the masses of neutral and charge D -mesons and measurement the branching fractions of J/ψ meson decays to the final states $p\bar{p}$, $2(\pi^+\pi^-)\pi^0$, $K^+K^-\pi^+\pi^-\pi^0$, $2(\pi^+\pi^-)$ and $K^+K^-\pi^+\pi^-$.

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