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## On quasinormal modes in 4D black hole solutions in the model with anisotropic fluid

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We consider a family of 4-dimensional black hole solutions governed by natural number  $q = 1, 2, 3, \dots$ , which appear in the model with anisotropic fluid and the equations of state:  $p_r = -\rho(2q - 1)^{-1}$ ,  $p_t = -p_r$ , where  $p_r$  and  $p_t$  are pressures in radial and transverse directions, respectively, and  $\rho > 0$  is the density. These equations of state obey weak, strong and dominant energy conditions. For  $q = 1$  the metric of the solution coincides with that of the Reissner-Nordström one. The global structure of solutions is outlined, giving rise to Carter-Penrose diagram of Reissner-Nordström or Schwarzschild types for odd  $q = 2k + 1$  or even  $q = 2k$ , respectively. Certain physical parameters corresponding to BH solutions (gravitational mass, PPN parameters, Hawking temperature and entropy) are calculated. We obtain and analyse the quasinormal modes for a test massless scalar field in the eikonal approximation. For limiting case  $q = +\infty$ , they coincide with the well-known results for the Schwarzschild solution. We show that the Hod conjecture which connects the Hawking temperature and the damping rate is obeyed for all  $q \geq 2$  and all (allowed) values of parameters.

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