

## E-models of inflation towards describing formation of primordial black holes

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We propose and study the new (generalized) E-type  $\alpha$ -attractor models of inflation, in order to include formation of primordial black holes (PBHs). We numerically investigate the phases of inflation, derive the power spectrum of scalar perturbations, and calculate the PBHs masses. For the certain values of the parameters, the asteroid-size PBHs can be formed with the masses of  $10^{17} \div 10^{19} g$ , beyond the Hawking evaporation limit and in agreement with current CMB observations. Those PBHs are a candidate for (part of) dark matter in the present universe, while the gravitational waves induced by the PBHs formation may be detectable by the future space-based gravitational interferometers.

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