



## **Basin modeling of the Laptev Sea Rift, NE Russian Arctic**

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The Laptev Sea Rift in the East Siberian shelf is a standard example of a continental rift that is located at the tip of an oceanic spreading ridge. This rift also plays an important role in the geodynamic models for the opening of the Eurasia Basin. The Laptev Sea Rift developed since the Late Cretaceous/Early Cenozoic with the formation of five roughly north-south trending depocenters. A basin modeling study was carried out with the software PetroMod<sup>®</sup>, to better understand the evolution of this rift. The sections that form the basis for the simulations cover the Anisin Basin in the north and the southeastern margin of the Ust' Lena Rift in the south. For the Anisin Basin two scenarios were modelled with different rift onsets at 110 Ma and 66 Ma, respectively. The results show that the present-day temperature field in the area of the Anisin Basin and at the southeastern margin of the Ust' Lena Rift is characterized by horizontal, seafloor-parallel isotherms. Geohistory curves extracted from the 2D simulations indicate a two-fold rift evolution with a stronger initial subsidence in the Late Cretaceous to Early Paleogene and a moderate subsidence in Late Paleogene and Neogene times, which might reflect the stalled propagation of the Arctic mid-oceanic rift.