



Thermal history and petroleum systems of the east Mediterranean realm

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The eastern Mediterranean Levant basin is a frontier basin that has gained a lot of industrial and academic interest in the last decade due to the huge gas discoveries that have been reported in its southern part. The reported gas in Miocene reservoirs has been assumed to be derived from biogenic sources, although little data has been published so far. The thickness of the sedimentary column and the presence of direct hydrocarbon indicators (DHI) observed in the seismic data suggest the presence of promising prospective thermogenic petroleum systems in deeper intervals in the Levant Basin and along its margins.

The east Mediterranean contains several structural elements dividing the area into different realms that reacted differently to the successive tectonic events that have shaped the area and thus resulted in different thermal and burial histories.

We will present source rock data collected within the last few years from several organic matter rich intervals in the east Mediterranean and discuss their depositional environment and petroleum generation potential, as well as the potential petroleum systems in each compartment of the study area. This is based on numerical thermal and burial history models of several east Mediterranean realms including the Levant basin, its eastern and western margins, and the Eratosthenes Seamount. Additionally, we will present some results of sensitivity analysis in the poorly calibrated parts of the study area.