

朱光有,杨海军,苏劲,韩剑发,朱永峰,王宇,顾礼敬,刘星旺. 2012. 中国海相油气地质理论新进展. 岩石学报, 28(3): 722-738

中国海相油气地质理论新进展

作者 单位

[朱光有](#) [Research Institute of Petroleum Exploration and Development, Petrochina, Beijing 100083, China](#)

[杨海军](#) [Research Institute of Petroleum Exploration and Development, Tarim Oilfield Company, PetroChina, Korla 841000, China](#)

[苏劲](#) [Research Institute of Petroleum Exploration and Development, Petrochina, Beijing 100083, China](#)

[韩剑发](#) [Research Institute of Petroleum Exploration and Development, Tarim Oilfield Company, PetroChina, Korla 841000, China](#)

[朱永峰](#) [Research Institute of Petroleum Exploration and Development, Tarim Oilfield Company, PetroChina, Korla 841000, China](#)

[王宇](#) [Research Institute of Petroleum Exploration and Development, Petrochina, Beijing 100083, China](#)

[顾礼敬](#) [Research Institute of Petroleum Exploration and Development, Petrochina, Beijing 100083, China](#)

[刘星旺](#) [Research Institute of Petroleum Exploration and Development, Petrochina, Beijing 100083, China](#)

基金项目: 本文受国家油气专项项目(2008ZX05004-003)和中国石油科技研究项目(2008A-0609)联合资助。

摘要:

近年来中国海相油气勘探呈现出快速发展势头,一批大型海相油气田被发现,海相油气的地位也愈来愈受到重视。特别是在海相石油地质理论的指导下,海相油气勘探将进入高速发展时期,这也将极大缓解东部陆相盆地老油区的勘探开发压力。海相石油地质新理论包括三个方面:在成烃方面,研究认为中国海相不缺乏高有机质丰度的泥质烃源岩,纯碳酸盐岩生烃能力有限;深埋高温下原油裂解成气和高演化阶段的海过渡相煤系烃源岩是海相天然气的主力气源;在低地温梯度和晚期深埋条件下,原油的稳定性较高,塔里木盆地液相石油可以赋存在9000m以下的储集层中,因此,塔里木盆地深层石油的勘探潜力很大。在储层方面,TSR溶蚀改造储层在深部更强烈、层间岩溶和顺层岩溶不受埋深限制影响不明显,将解放深部碳酸盐岩的勘探。在油气成藏方面,大面积、准层状、连续型、缝洞型等油气富集模式的提出,拓展油气勘探的范围、降低了勘探成本;一批古老油藏的发现,提高了在构造复杂区寻找原生型海相油藏的信心。研究认为,近期海相勘探,围绕隆起斜坡部位勘探为主,主勘探深度可以下移至9000m。

英文摘要:

In recent years, hydrocarbon prospecting in China marine basin progressed quickly and discovered series of marine oil fields, marine oil and gas is now playing a more important role. Especially, under the guide of new hydrocarbon geological theory of marine basin, exploration of marine oil and gas will enter a high-speeding development period, by which the pressure of eastern terrestrial facies basins prospecting and exploitation will be eased greatly. New hydrocarbon geological theory of marine basin contains three aspects. In the aspect of hydrocarbon productivity, China marine sedimentary basins are not lack of high-TOC argillaceous source rocks but the hydrocarbon productivity of pure carbonate is limited; marine gases mainly originated from oil-cracking gas in deep reservoirs under high temperature and diagenetic conditions of transitional facies under high evolutionary phase; under low geothermal gradient and deep-seated condition, crude oil of Tarim basin can exist in the reservoirs buried below 9000m, the prospecting potentiality of Tarim basin is great. In the aspect of reservoirs, intensely alter-lating by TSR in depth and the development of interstratal karst and veneering karst expanded the prospecting of carbonate reservoirs. According to the aspect of hydrocarbon accumulation, the proposal of the large area, quasi-layered, sequential distributed and fracture-cavern accumulation models expanded the hydrocarbon exploration area and decreases the exploration cost; the discovery of series of old oil reservoirs has enhanced geologists' faith to seek primary type oil reservoirs in complex structure area. Our studies suggest that the main exploration area can extend to the depth of 9000m around the uplift slope.

关键词: [海相](#) [碳酸盐岩](#) [原油裂解](#) [岩溶储层](#) [深层](#) [成藏模式](#) [石油地质理论](#)

投稿时间: 2011-10-11 最后修改时间: 2012-01-04