

## 中国中西部盆地差异构造演化与碎屑岩层系油气聚集分布

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## Differential tectonic evolution and hydrocarbon distribution in clastic strata of petroliferous basins in central-western China

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摘要

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**摘要** 对中西部地区盆地构造演化和晚期差异构造改造的分析表明,四大盆地构造-成盆具有“同序异时”的演化特征,即均具有从伸展性盆地向压性或压扭性盆地转化的成盆序列;碎屑岩层系的晚期构造改造由山前冲断、差异隆升和掀斜等3种基本型式在横向上并列和纵向上叠加而成。构造-成盆作用与晚期构造改造共同控制了碎屑岩层系的油气富集分布及油气成藏类型与规模:单一的成盆序列和多样式的转化确定了四大盆地间相似的成藏组合类型与差异性分布特征,四大盆地改造的基本型式决定了油气富集的类型,而改造的叠加特征控制了油气富集成藏的期次和规模。基于对四大盆地碎屑岩层系油气富集构造控制因素的相似性和差异性认识,提出了油气富集构造区带类型的划分方案,划分出古隆起、斜坡、山前褶皱冲断及大型断裂4类油气富集区带类型及相应7种成因类型。

**关键词:** 碎屑岩 油气成藏 油气富集区带 构造演化 中国中西部

**Abstract:** The relationship between tectonic evolution and hydrocarbon distribution is complex in major petroliferous basins such as Sichuan, Ordos, Junggar and Tarim in central-western China. Analysis of the tectonic evolution and late differential tectonic modification of these basins shows that the four basins had the similar process and different geologic timing of tectonic evolution and basin formation, i.e. they all have a similar basin-forming process featuring in transformation from extensional to compressional or transpressional basin. The late tectonic modification of the clastic strata is characterized by lateral aligning and vertical superimposition of three basic structural styles including foreland thrust, differential uplifts and tilted structure. Tectonic activity, basin formation and late modification jointly control hydrocarbon accumulation types, sizes and distribution. Simple basin-forming process but diversified tectonic transformation determines that the four basins have similar play types but differential distribution patterns. The basic modification style of the four basins determines their hydrocarbon accumulation types, while the superposition features control the timing and sizes of hydrocarbon accumulation. Based on the understanding of the similarities and differences of tectonic controlling factors on hydrocarbon accumulation among these basins, we put forward a play classification scheme. According to this scheme, we identified 4 play types including palaeo-uplift, slope, foreland folded-thrust and large fault.

**Keywords:** clastic rock hydrocarbon accumulation play tectonic evolution central-western China

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