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贺兰山以南中奥陶统香山群徐家圈组古水流分析 [点此下载全文](#)

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DOI:

摘要:

贺兰山以南中奥陶统香山群为一套遭受轻微区域变质的陆源碎屑岩, 并夹有少量碳酸盐岩和硅质岩, 属于深海浊流沉积。其下部徐家圈组由灰绿、黄绿色轻变质细粒砂岩、钙质砂岩及粉砂岩和页岩组成, 沉积环境为深水斜坡环境, 并在该组发现了内波、内潮汐沉积, 主要表现为双向交错层理。本文通过对徐家圈组指向沉积构造所显示的古水流资料进行研究, 综合分析了香山群徐家圈组沉积时浊流方向和古斜坡方向, 并利用古水流资料探讨了内波流和内潮汐流的方向。结果表明, 槽模古水流方向从北向南略呈扇形发散状, 代表了沉积时的浊流方向; 交错层理古水流方向主要分散在NW—NE之间, 可以代表内波流和内潮汐流方向。对古水流平面分布特征进行综合分析, 可以判断出沉积时区域斜坡方向与浊流方向基本一致, 大致为SSW向, 沉积时内波和内潮汐的传播方向则大致为NW向。

关键词: [香山群](#) [沉积构造](#) [古水流分析](#) [内波,内潮汐沉积](#) [贺兰山](#) [宁夏](#)

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Abstract:

The Xiangshan Group, Middle Ordovician, in the south of Helan Mountains, belongs to deep sea turbidity current deposits which are mainly a set of light metamorphic terrigenous clastic rocks with some carbonate rocks and siliceous rock interbed. The Xujiajuan Formation of the Lower Xiangshan Group is made up of grayish green, yellowish green, light metamorphic fine sandstone, calcareous sandstone, siltstone and mudstone (slate), whose sedimentary environment was a slope environment. The deposits of internal wave and internal tide which characterized by bidirectional cross beddings are found in this Formation. In this paper, the palaeocurrent data recorded in directional sedimentary structure were collected for determining the direction of turbidity currents, the dip of regional slopes in the study area, and the direction of internal wave and internal tide current. The result shows that the palaeocurrent direction of flutes presents a slightly fan shaped from the north to the south and suggests the direction of turbidity currents when depositing. distribution from the north area and a SSW dipping slope, while the palaeocurrent direction of cross beddings are mainly restricted within an elongated zone extending in a NWW—NE direction suggest the direction of internal wave and internal tide current. Analyzing comprehensively the plane distribution of Paleocurrent, the result is that the dip of regional slope and the direction of turbidity current are the same—SSW direction, and the propagating direction of internal wave and internal tide when depositing are NW direction.

Keywords: [Xiangshan Group](#) [sedimentary structure](#) [palaeocurrent analysis](#) [internal wave and internal tide deposit](#) [Helan Mountains](#) [Ningxia](#)

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