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## 沉积盆地中地震波速度与地层年代的关系

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The relationship between seismic wave velocity and geologic time in sedimentary basin

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摘要

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摘要 地层年代确定是地质学研究领域的重要课题,地质类定年方法具有各种不利因素.本文选择地球物理方法确定地层年代,以中国大陆沉积盆地作为研究区,通过对盆地中实测速度、深度和年代三者间关系的深入研究,应用统计、拟合和扫描的方法,建立了中国大陆沉积盆地中速度、深度和年代之间的定量关系,此关系式为测定年代提供了一种新的方法.利用此关系式计算了沉积盆地基底的年代范围,并与同位素实测的年龄作了比较,表明该方法可以粗略确定稳定基底年代.计算基底年龄和实测数据之间存在误差,其原因主要是本文把中国大陆沉积盆地看作一个构造单元所致.

关键词 年代, 地球物理方法, 沉积盆地, 速度, 深度, 扫描

Abstract: Dating is an important subject in geological research. The geologic dating methods face some different difficulties. Consequently, in this study, a new geophysical method is used to do the dating research in Chinese continental sedimentary basins. Based on the methods of statistics, fitting and scanning, the relations of velocities, depths and ages in basins were investigated and a new method to determine absolute ages was proposed. According to the formula, the range of sedimentary basement age is also determined and compared with the results by isotopic methods. The result shows the formula also can be used to determine the range of sedimentary basement ages. Errors may be brought because China continental sedimentary basins are thought as one tectonic unit.

Keywords Dating, Geophysical method, Sedimentary basin, Velocity, Depth, Scanning

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