

储层参数对AVO截距-梯度交会图的影响

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摘要 以AVO技术的基本理论为基础,应用完全形式的Zoeppritz方程合成AVO角度道集理论模型,根据Shuey近似式拟合截距 P 与梯度 G ,分析储层厚度、泊松比、速度变化对 P - G 交会图的影响.通过对比分析发现,三层介质 P - G 交会曲线为近似椭圆,储层厚度对 P 、 G 值均有影响,对交会曲线的斜率无影响,在厚度达到 $\lambda/4$ 时, P 、 G 绝对值最大,交会曲线延伸最长;泊松比主要影响 G 值, P 值变化不大;储层速度的变化主要影响 P 值, G 值变化不大.

关键词 [AVO](#),[Shuey 近似式](#),[P-G交会图](#),[储层厚度](#),[泊松比](#),[速度](#)

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Influence of reservoir parameters on AVO Intercept-Gradient Crossplot

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Abstract Based on the basic theories of AVO technique, AVO angle gather theoretical models are computed by using Zoeppritz equations, intercept P and gradient G values are fitted according to Shuey's approximation, then analyse influences of thicknesses, Poisson's ratios and velocities on P - G crossplots. By comparing and analyzing, we find that P - G crossplot curves are nearly ellipses for three formations media. Reservoir thickness influences P and G , but don't influences the slope of the trend line. When the thickness reaches to $\lambda/4$, absolute values of P and G are all the biggest, the trend line is the longest. Poisson's ratios have a big influence on G , and P keeps fixity nearly; velocities have a big influence on P , and G keeps fixity nearly.

Key words [AVO](#) [Shuey's approximation](#) [P-G crossplot](#) [reservoir thickness](#) [Poisson's ratio](#) [velocity](#)

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