



انجمن ژئوفیزیک ایران



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سخنرانی علمی

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عنوان

یک نرم افزار برای به تصویر کشیدن ساختمان های زمین شناسی با استفاده از داده های لرزه نگاری سه بعدی

(A prototype tool for seismic structural imaging)

سخنران

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چکیده سخنرانی:

In this presentation, different industrial Pre-stack time Migration (PSTM) tools was tested in order to improve seismic image on the Aghajari field in the Dezful Embayment, one of major structural zone in Zagros fold-thrust belt containing most of Iranian oil fields.

Several new approaches of seismic imaging have been applied in order to investigate and improve the reservoir illumination. In the first attempt one of NIOC contractors executed PSTM processing using OMEGA software. Then PSTM was run using Geovector software from CGGVeritas. After that the "Beyond Dix" workflow of CGGVERITAS was applied to land seismic data for the first time; this process enables to build a depth/velocity model from the dips read on the PSTM image (pre-stack time migration), and the residual move out corrections. The depth migrated image is improved in the overburden, unfortunately not at reservoir level, due to low signal to noise, interference with multiples, thus poor dip and velocity determination in the reservoir interval.

A new Kirchhoff PSTM prototype technique was developed in IFP, allowing a selection of azimuth sectors, offset range and geological dip, with automatic optimization of the local dip. The results from this new technique show clear improvements in dip determination and signal to noise ratio of the migrated image.

In Zagros, Surface seismic is definitely a good tool for the structural imaging, but its application to fine reservoir studies has not been demonstrated, in spite of the efforts achieved in this study.