Reduksi residual NMO (normal moveout) medium anisotrop lapangan "x" menggunakan metode fomel dan stovas = NMO (normal moveout) residual reduction on medium anisotropy in field "x" using fomel and stovas method

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Abstrak

ABSTRACT
Seismik anisotrop dinyatakan sebagai ketergantungan kecepatan seismik terhadap arah penjalaran gelombang dalam batuan. Sifat medium anisotrop ini mempengaruhi data seismik pre-stack yang terdiri dari near offset, mid offset dan far offset pada saat dilakukan proses koreksi NMO. Koreksi NMO normal moveout pada prinsipnya menggunakan pendekatan persamaan waktu tempuh medium isotrop dimana fenomena seismik sering mengalami permasalahan pada far offset-nya dikarenakan mediumnya bersifat anisotrop. Permasalahan yang ditimbulkan berupa munculnya efek hockey stick. Adapun tujuan pada penelitian ini untuk mengetahui residual terbaik pada variasi metode waktu tempuh Fomel dan Stovas, Alkhalifah dan konvensional Hiperbolik. Pada penelitian ini digunakan analisis Semblance dengan variasi metode waktu tempuh Fomel dan Stovas, Alkhalifah dan konvensional hiperbolik untuk mendapatkan nilai VNMO dan anisotrop. Pada perolehan nilai VNMO dan anisotrop ? untuk masing-masing variasi metode waktu tempuh, diperoleh masing-masing nilai residual dan ketiganya dikomparasi. Dari hasil penelitian ini didapatkan bahwa metode waktu tempuh non-hiperbolik Fomel dan Stovas lebih baik dalam mereduksi residual NMO dibandingkan dengan metode waktu tempuh non-hiperbolik Alkhalifah dan Hiperbolik. Hal tersebut ditunjukan oleh nilai residual yang kecil. Nilai residual terkecil berpengaruh untuk menghilangkan efek yang ditimbulkan oleh medium anisotrop berupa hocky stick.
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ABSTRACT
Seismic anisotropy is defined as velocity dependent upon diection of wave propagation in rocks. The characteristic of this anisotropic medium affected the seismic pre stack which was consisted of near offset, mid offset, and far offset when the correction of NMO process was being conducted. The NMO correction normal moveout principally used the isotropic medium approach where the seismic event often encountered problems in its far offset which was caused because the medium was anisotropic. The problem itself was the appearance of hockey stick and NMO stretching. The purpose of this research is to understand the best residual value in Fomel and Stovas, Alkhalifah, and conventional hyperbolic methods of variation of travel time. In this research, the Semblance analysis was used alongside with Fomel and Stovas, Alkhalifah, and conventional hyperbolic methods of variation of travel time to obtain value of VNMO and anisotropy. In the acquisition of values of VNMO and anisotropy, each of the residual values was obtained and each were compared. From the result of this research, it was found that non hyperbolic Fomel and Stovas method of travel time was better in reducing residual NMO as indicated by the small residual value compared with Alkhalifa and conventional hyperbolic methods of travel time. The smallest residual contributed to eliminate the effect which was caused by anisotropy medium like hocky stick effect.