

# APLICACIONES DEL MODELADO SISMICO A LA EXPLORACION PETROLERA EN EL GOLFO DE MEXICO

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## RESUMEN

In this work we apply a 2- and 3-D spectral element method for acoustic wave modeling to the study of wave propagation in a complex geological setting including salt tectonics. In order to avoid undesired reflections on the edges of the domain, we introduce a Perfectly Matching Layer (PML) boundary condition. Our main goal is to understand the complex diffraction patterns occurring in the presence of salt tectonics that give rise to distorted low quality seismic images as a result of a well documented lack of illumination beneath and below allochthonous salt bodies. This kind of tools can be helpful to validate velocity models when applying expensive methods such as PreSDM for subsalt imaging.