The Role of Visual Saliency in Seismic Interpretation with an Application to Salt Dome Delineation

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Abstract:

We propose a new saliency-based seismic attribute for computer-assisted interpretation of large seismic volumes. We further propose a framework to delineate salt dome structures using saliency and visual attention theory. The experimental results on the real seismic dataset acquired from the North Sea, F3 block show the effectiveness of the proposed framework using both subjective and objective evaluation measures. The proposed framework has a very promising future in effective seismic interpretation. In this work, we demonstrate that viewing the large seismic volumes as a scene with underlying hypotheses and structures is a very promising direction.