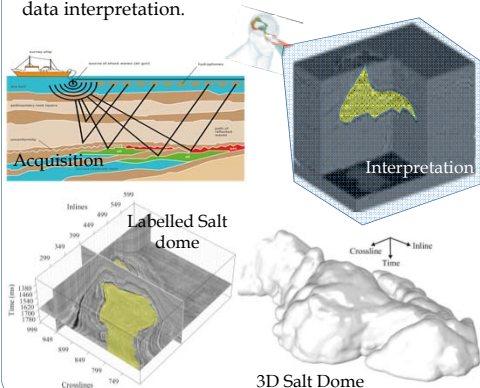


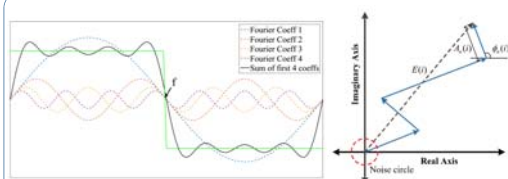


Motivation

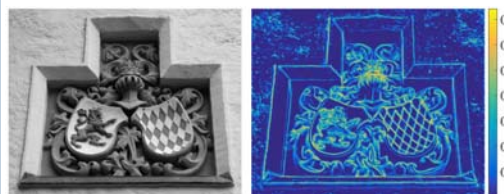
Salt domes are important geological structures spanning over several kilometers under Earth subsurface. Because of their impermeability, they form traps for large hydrocarbon reservoirs. Therefore, accurate localization and delineation of salt domes is one of the important steps in seismic data interpretation.



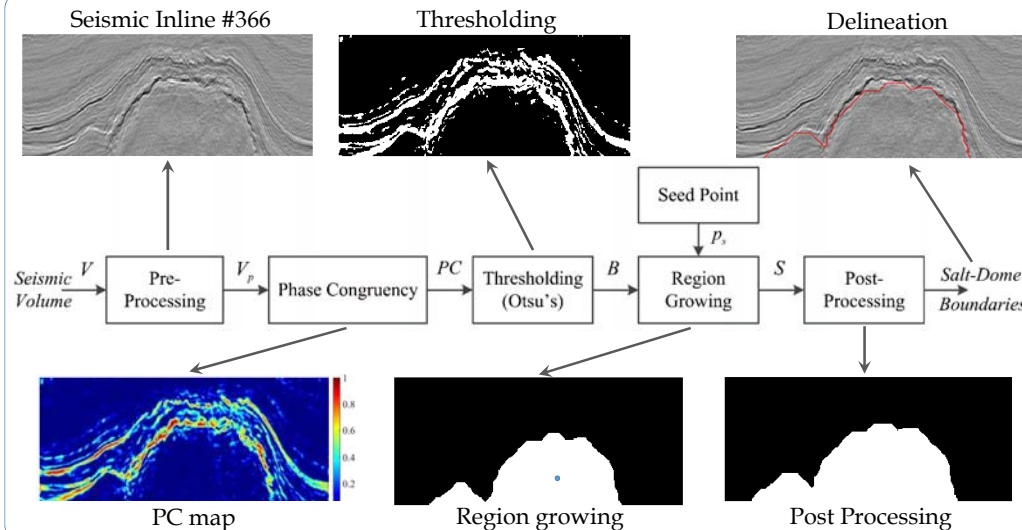
Phase Congruency



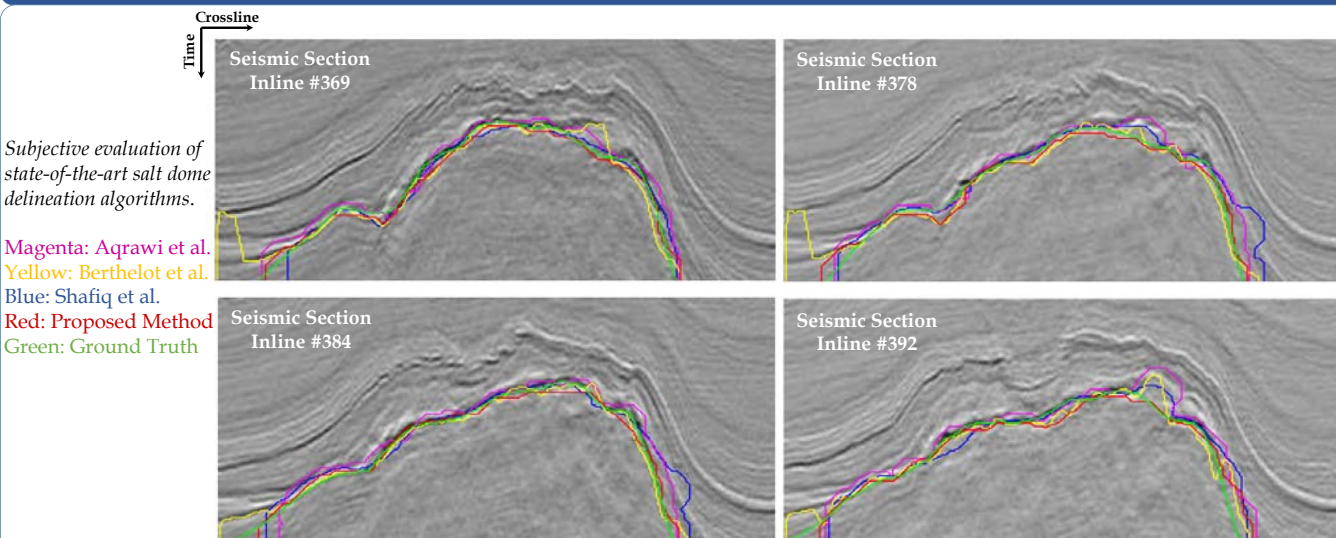
$$PC = \frac{\sum_o \sum_n W_o(i) [A_{no}(i) \Delta \Phi_{no}(i) - T_o]}{\sum_o \sum_n A_{no}(i) + \epsilon}$$



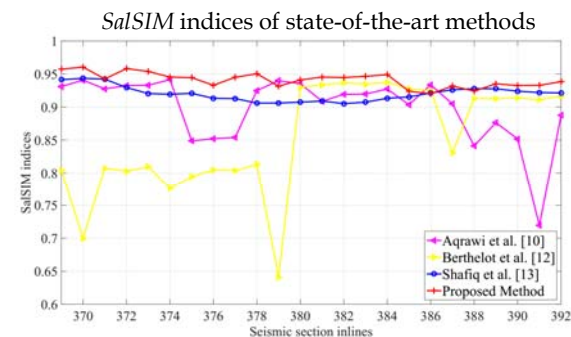
Proposed Method for Salt Dome Delineation



Experimental Results



Objective Evaluation



Objective Assessment of state-of-the-art methods

Delineation Methods	Mean	Std. Dev.	Time (s)
Aqrawi et al. [10]	0.8981	0.0509	0.2464
Berthelot et al. [12]	0.8533	0.0823	33.5447
Shafiq et al. [13]	0.9201	0.0114	63.3162
Proposed Method	0.9412	0.0110	0.2408