**Physics - Geophysics; Study Data from University of Texas Austin Provide New Insights into Geophysics (Streaming prediction-error filters)**

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2024 JUN 4 (VerticalNews) -- By a News Reporter-Staff News Editor at Physics Week -- New study results on geophysics have been published. According to news reporting out of Austin, Texas, by VerticalNews editors, research stated, "Prediction-error filters (PEFs) are essential in seismic deconvolution and other geophysical estimation problems."

The news editors obtained a quote from the research from University of Texas Austin: "We show that non-stationary multidimensional PEFs can be computed in a streaming manner, where the filter gets updated incrementally by accepting one new data point at a time. The computational cost of estimating a streaming PEF reduces to the cost of a single convolution."

According to the news editors, the research concluded: "In other words, the cost of PEF design while filtering equals the cost of applying the filter. Moreover, the non-linear operation of finding and applying a streaming PEF is invertible at a similar cost, which enables a fast approach to missing data interpolation."

For more information on this research see: Streaming prediction-error filters. GEOPHYSICS, 2024. The publisher for GEOPHYSICS is Society of Exploration Geophysicists.

A free version of this journal article is available at https://doi.org/10.1190/geo2023-0646.1.

Our news journalists report that additional information may be obtained by contacting Sergey Fomel, University of Texas Austin, Jackson School of Geosciences, **Bureau of Economic Geology**, Austin, Texas, United States. Additional authors for this research include Jon Claerbout.

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