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On ZOOM

Earth System Dynamic Intelligence with Quantum Technologies: Seeing the “Invisible”, Predicting the “Unpredictable” in a Critically Changing World

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The present communication embarks on a frontier journey articulating two of our flagship programs – “Earth System Dynamic Intelligence” and “Quantum Information Technologies in the Earth Sciences” – to take the pulse of our planet and discern its manifold complexity in a critically changing world.

Going beyond the traditional stochastic-dynamic, information-theoretic, artificial intelligence, mechanistic and hybrid approaches to information and complexity, the underlying fundamental science ignites disruptive developments empowering complex problem solving across frontier natural, social and technical geosciences.

Taking aim at complex multiscale planetary problems, the roles of our flagships are put into evidence in different contexts, ranging from I) Interdisciplinary analytics, model design and dynamic prediction of hydro-climatic and broader geophysical criticalities and extremes across multiple spatiotemporal scales; to II) Sensing the pulse of our planet and detecting early warning signs of geophysical phenomena from Space with our Meteoceanics QITES Constellation, at the interface between our latest developments in non-linear dynamics and emerging quantum technologies.

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12h00-13h00