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Discovering the Dilaton particle with the Cosmic Compass experiment GEORGE SOLI, Integrated Detector Systems — The cosmic compass experiment measures the one-way group velocity of light. It also measures a Morse function critical point that is modeled as a bulk dilaton caustic in Anti de Sitter (AdS) spacetime under the strong Maldacena conjecture. And it also measures the renormalization length exponent showing that dilaton gravity is strong at the Planck scale but decouples at low temperature proving the 't Hooft-Susskind holographic hypothesis. The discovered strong Maldacena duality is the similarity between the Nyquist sample spacing in bulk general relativity with its IR cutoff and the Planck length in brane Shannon Statistical Topological Quantum Field Theory (SSTQFT) with its UV cutoff. The discovered bulk dilaton caustic supports a microscopic wormhole on the brane that conveniently causes the cosmic compass experiment to produce sidereal data.

> George Soli Integrated Detector Systems

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