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**Laboratory Detection of Cold Dark Matter as Side-real Dilaton Scattering Data** GEORGE SOLI, Integrated Detector Systems — An experiment designed to prove that the one-way group-velocity of slow-photons does not exist, produces a surprising positive result. The one-way velocity is larger than simple Newtonian velocity addition of the photon's velocity and Earth's velocity relative to the CMB, indicating that the photons must be interacting with something at rest relative to the CMB. That something turns out to be CDM that is the dilaton or Goldstone boson of scale-invariance symmetry-breaking, that is at rest relative to the CMB with a mass greater than our photon's vacuum excitation energy of  $3.3 \mu\text{eV}$ . This non-classical scattering interaction with dilatonic CDM is mediated by the magnetic fine structure constant (137) discovered as a Morse function critical point in the higher dimensional anti de Sitter space used to model the scattering interaction. The vacuum excitation energy saturates the Ford-Roman quantum inequality implying that the Goldstone boson is also negative pressure dark energy, solving the dark matter-energy coincidence problem. This CDM also solves many other cosmological problems. It has already been argued in the literature that Einstein thought of our measured slow-photon magnetic flux tubes first.

- Prefer Oral Session  
 Prefer Poster Session

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