INTERNATIONAL SOLVAY INSTITUTES BRUSSELS

NEW HORIZONS LECTURE IN PHYSICS

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The S-matrix Bootstrap: Exploring Everything, Everywhere, All at Once

What are the basic principles that govern particle scattering? Is there a clear path from such principles to computable predictions?

The S-matrix bootstrap begins with a minimalistic answer to the first question, assuming that physical observables describe causal evolution that obeys the ordinary rules of quantum mechanics.

Based on this, the answer to the second question turns out to be surprisingly rich and is still an active area of research. In this talk, I will review some of the recent developments in uncovering the mysteries of relativistic scattering amplitudes using the S-matrix bootstrap techniques. I will also discuss the challenges for the S-matrix bootstrap program that still lie ahead.

Tuesday 23 May 2023 at 4:00 P.M.

COFFEE AND TEA WILL BE SERVED AT 3:45 P.M IN FRONT OF THE SOLVAY ROOM

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