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How quantum foundations might affect high energy particle physics

Thursday, 28 May 2020 11:00 (1 hour)

Zoom link

<https://durhamuniversity.zoom.us/j/92654246176?pwd=WHIVTHhRZlFVaGFRWUZ6ay9EcDhiUT09>

Dissatisfied with today's prevalent views in the literature, on the implications of quantum theory for reality at the tiniest distance scales of physics, this speaker has made attempts to explain what 'really' happens. This is not at all a hopeless enterprise; indeed, we found ways to connect classical evolution laws to Schrödinger's equation. Today, our information concerning the observed particles is still far from adequate to isolate any one particular automaton, but we can draw rough general conclusions. One of these is that this approach would outlaw the famous "anthropic principle". An other is that quantum computers may be able to perform miracles in the not-so-distant future, but there will be limits to the non-polynomial problems that one might ever be able to solve, even in the distant future.

Presenter: 'T HOOFT, Gerard (University of Utrecht)